(44) IV/40

T:- A note on the Gupta Copper Plates from Damodarpur, Pt. V

A:- K. N. Dikshit

X = P = Missing (1-192)

Start 193

Sub:- Archaeology

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No. 13.—A NOTE ON THE DATES OF THE GUPTA COPPER PLATES FROM DAMODARPUR.

By K. N. Dikshit, M.A.

The discovery of the Damodarpur plates has thrown new light on the fortunes of the Gupta dynasty in Eastern India. The plates have been edited by Mr. Radha Govinda Basak above, Vol. XV., pages 113-145. I wish here to point out certain inaccuracies in the readings of the dates as read by Mr. Basak, which I first noticed when I read his paper and subsequently verified by reference to the original plates, now preserved in the Varendra Research Society's Museum at Rajshahi.

The date of the second plate which has been read by Mr. Basak as 129 is to be read as 128. The unit figure which is a vertical line with a slight bend, and a seriph or small horizontal line at the top end, must be taken as the symbol for 8, while the symbol for 9 has a loop at the top.

The fifth plate has lost the name of the reigning Gupta sovereign, but the date has been fairly well preserved. It has been read as 214; but I see no trace of a 'ten' in the second figure, but a clear '*tha*' denoting 20, the date thus being 224. That some Gupta sovereign held sway over North Bengal as late as 224 G.E. or 543 A.D., that is eleven years after the date of the Mandasor pillar inscription of Yaśōdharman (532 A.D.) is an important result. It is no longer possible to assume with Mr. Basak that the Gupta Emperor who made the grant was Bhānugupta,[1] as the difference between the date of the plate and the only known date for Bhānugupta (*viz.*, 191 Gupta Era) is now 33 years. The fourth and fifth plates seem to be separated by a wider margin than that existing between any other two plates of the Damodarpur find. The intervening period of sixty years, roughly 164—224 Gupta Era (=483—543 A.D.) witnessed the gradual diminution of the Gupta dominion and the slow shifting of the centre of their power to the east. It also witnessed the rise and fall in succession of the Hūna chieftains Tōramāna and Mihirakula, and the transitory success of the Mālava chief Vishnuvardhana Yaśōdharman. Other dynasties like the 'Vardhana' kings of Thanesvar and the Maukhari rulers of Kōsala were coming into power on the western outskirts of the Gupta Empire, the latter dynasty in particular having carried on an incessant warfare in Oudh and adjacent regions with the Guptas. It was probably the ascendancy of the Maukhari rulers in Ayōdhyā that drove the 'noble born' Amritadēva (the donor of the fifth Damodarpur plate) from his native place Ayōdhyā to the distant Paundravardhana province, which may seem to have been one of the last retreats of the Imperial Guptas. The Jaunpur inscription of the time of the Maukhari Īśvaravarman, though not dated, must belong to the same period as the fifth Damodarpur plate, as we know from the Haraha inscription that Īśvaravarman's son Īśānavarman had fully established himself in Oudh by 555 A.D.

No. 14.—SOMALAPURAM GRANT OF VIRUPAKSHA: SAKA 1389.

By K. V. Subrahmanya Aiyar, B.A., M.R.A.S., Ootacamund.

This set of three copper-plates, marked No. 2 in Appendix A of Rao Bahadur H. Krishna Sastri's Annual Report on Epigraphy for 1913-14,[2] is edited below for the first time with the help of one set of impressions kindly placed at my disposal by him.

The plates are reported to belong to a Kuruba ryot of Sōmalāpura in the Bellary taluka of the Bellary District. They were unearthed years ago while digging foundations for a house; but were secured in 1913, for the examination of the Assistant Archæological Superintendent,

[1] [The reading at the end of l. 1 in Plate V of the Damodarpur Plates is probably Kumāra.—Ed.]

[2] See also p. 95, paragraph 25, of the same report.

Southern Circle, through the kind offices of the Tahsildar of the taluka, by the then Kanarese Epigraphical Student, Mr. K. Ranga Sastri. Regarding the description of the plates Mr. Krishna Sastri has made the following note on the cover of the ink-impressions he sent to me :—

"Three plates with rounded tops of which the first and last are written on the inner sides only. They are held together by a ring which passes through a round hole bored at the top of each plate. On the ring, which is nearly $2\frac{3}{4}''$ in diameter and $\frac{1}{4}''$ in thickness, slides a circular seal shaped like a signet ring. The seal measures $1\frac{1}{4}''$ in diameter and bears in relief on its surface at the top the sun and the crescent and a standing boar facing the proper left. Below it is what looks like a floral device. The plates measure $9\frac{1}{4}''$ by $6\frac{7}{8}''$. The circular top measures $1\frac{3}{8}''$ from the base to the middle of the arc."

The plates are written in the **Nandi-Nāgarī** characters throughout excepting the syllables "*Śrī-Virūpāksha*" at the end which are in Kannaḍa. The inscription is in a good state of preservation: the only places where the letters appear slightly damaged are at the commencement of lines 20 and 68.

The language of the inscription is **Sanskrit** verse from beginning to end. The description of the boundaries in *dēśabhāshā*, promised by verse 46 (ll. 71, 72), is left blank for reasons which cannot be guessed at this distance of time.

As is usual in the copper-plate grants of Vijayanagara kings, this record contains evident mistakes of spelling such as the frequent substitution of *sa* for *śa* (ll. 1, 4) and *vice versâ* (ll. 1, 3); *tha* for *ta* (ll. 5, 16); *dha* for *tha* (l. 43); omission of *visarga* (ll. 5, 8, 13) and its retention in places where it has been changed into स (l. 42); unnecessary insertion of *anusvāra* (ll. 37 and 38), etc. Conjunct consonants are sometimes written side by side as in द्दयालु (l. 2), पालयन्नव° (l. 37) and खड्गाघत. (l. 33). In चतुर्घटि (l. 45) and भूत्व (l. 12) the rules of *sandhi* have not been properly observed. न has been unnecessarily doubled in खिन्न्चिरा° and *visarga* has been changed into double र in गुणरंनेकै° (l. 27). Other instances of mistakes are सौष for सर्व (l. 45), सर्वं for सर्व (l. 13) and धेनेष for धेनेष (l. 17). As all the mistakes occurring in the record have been corrected in the text or in the foot notes, they have not been given here in more detail.

The first three verses are invocations addressed to Śiva, Gaṇapati and the boar incarnation of Vishṇu. The fourth introduces the **Moon**, and the fifth refers to Yadu and Vāsudēva. The historical portion commences with **Saṅgama** (v. 6). His son was **Bukka**. When he became king, the prosperity of the **Karnāṭa** kingdom was permanently established (vv. 7 and 8). **Harihara** (II) was born to him; he filled the quarters with the wealth of his charity (v. 9). He had a son named **Pratāpa-Dēvarāya** (I) by whom the **Turushkas** and hostile kings were overcome (vv. 12 and 13). His queen was **Dāmāmbikā** and their son was **Vijayabhūpati**, renowned for his wisdom (v. 14). Vijayabhūpati's son by **Nārāyaṇīdēvī** was **Pratāpa**, also called **Prauḍhapratāpa** (v. 15), who obtained from his elder brother the kingdom of **Ghanādri** (v. 16). His son by queen **Śiddaladēvī** was **Virūpāksha**. The titles *Rājādhirāja* (v. 18), *Rājaparamēśvara* (l. 42), *Mururāyaraganda*, *Pararāya-bhayaṅkara* and *Hindurāya-Suratrāṇa* and *Chhurikā-bhālanētra* (v. 20) are given him. It is said that he obtained the kingdom by his own prowess and ascended the ancestral throne on the bank of the **Tuṅgabhadrā**, in the presence of god **Virūpāksha** (vv. 21 and 22).

In speaking of the ancestors of Virūpāksha, our record refers to the valour of Bukka I, the munificence of Harihara II, the prowess of Dēvarāya I and the wisdom of Vijayabhūpati. The same is pithily expressed in a single couplet elsewhere[1] thus :—

शौर्यं श्रीदेवराजेशो ज्ञाने विजयभूपतिः ॥

[1] *South-Ind. Inscr.*, Vol. I, p. 163, verse 15.

The statement that when Bukka I, one of the two earliest sovereigns of the Vijayanagara dynasty, ascended the throne, the prosperity of the Karnāṭa kingdom was well established, is of particular interest to the student of history, as it seems to hint the probable fact that the Vijayanagara dominion was founded on the ruins of the Hoysala (*i.e.* the Karnāṭa) dominion, which was wrecked by the Muhammadan invasions of South India; and shows also that the inveterate feud between the Vijayanagara kings and the Muhammadan monarchs should have risen even from the very inception of the new Hindu kingdom. There is not much doubt that the country over which Bukka ruled was a portion of the Karnāṭa empire and that the Vijayanagara kings were the political successors of the Hoysaḷas.

Of greater importance are the statements of our plates that Pratīpa, also called Prauḍhapratāpa, was the younger son of Vijayabhūpati, that he obtained from his elder brother,—showing clearly that he held a subordinate position under him,[1]—the government of Ghanādri, and that Virūpāksha II was his son.

The Satyamaṅgalam plates of Dēvarāya (II)[2] state that Vijayabhūpati had two sons of whom the elder was called Dēvarāya and the younger Pratāpa-Dēvarāya. From this it is clear that both the sons had in common the name Dēvarāya. The existence of these two sons of Vijayabhūpati, though not with their names specified, is recognised in the three copper-plate grants of Virūpāksha known to us so far, *viz.* the Sajjalūr plates,[3] the Śrīśailam plates[4] and the present Sōmalāpuram grant. These, being directly concerned in tracing the main line of Virūpāksha, naturally enough, omit to mention the name of the elder. While the Śrīśailam plates call the younger Pratāpa-Rāya, the other two give the additional information that he was renowned by his title *Prauḍhapratāpa*. Thus, from all these sources it can be gathered that while the first son of Vijayabhūpati was known by the mere name Dēvarāya—with or without the common addition of Vīrapratāpa which is generally assumed by Vijayanagara kings—the younger was always called Prauḍhapratāpa or Pratāpa-Dēvarāya which is sometimes supplemented in stone records by the epithet *gajavēttai-kaṇḍaruḷiya*. Among the stone records of Vijayanagara kings, the following are clearly attributable to the second son of Vijayabhūpati:—

No. 92 of the Madras Epigraphical collection for 1918.	Dated in Śaka 1351 in the reign of Pratāpa-Dēvarāya, son of Vīra-Vijayarāya.
No. 91 of 1918	Dated in Śaka 1352 in the reign of Prauḍha[5]-Dēvarāya-Mahārāya, son of Vīra-Vijaya-rāya-Mahārāya.
No. 68 of 1918	Dated in Śaka 1367 in the reign of Pratāpa-Dēvarāya-Mahārāya, son of Vīra-Vijaya-rāya-Mahārāya.

Thus it is beyond doubt that the second son of Vijayarāya or Vijayabhūpati was not only called Pratāparāya and Prauḍhapratāpa, but had the additional name Dēvarāya suffixed to these names. Further, the Madras Museum plates of Dēvarāya II[6] refer to a younger brother of his named Śrīgiri who was governing Maratakanagara in A.D. 1424-5 and the Satyamaṅgalam plates of Dēvarāya II, dated in the same year, imply that his younger brother Pratāpa-Dēvarāya was

[1] If Mr. Rice has correctly read *nijāgrajāprāptam=anādi-rājyam* (p. 136 of *Ep. Carn.*, Vol. III), it is evidently a mistake of the engraver for *nijāgrajāt=prāpta-Ghanādri-rājyaḥ* given in our plates. His remarks (*ibid.*, introduction, p. 23) that Pratāpa or Prauḍha-pratāpa obtained the immemorial kingdom from his elder sister requires modification.

[2] *Ep. Ind.*, Vol. III, p. 37 *f.*

[3] *Ep. Carn.*, Vol. III, pp. 135 ff., Ml. 121.

[4] *Ep. Ind.*, Vol. XV, pp. 8 ff.

[5] This is a shortened form of Prauḍhapratāpa.

[6] *Ep. Ind.*, Vol. VIII, pp. 306 ff.

ruling over the same district. There is thus no doubt that Pratāpa-Dēvarāya is identical with Śrīgiri and this fact has been pointed out by Mr. Venkayya in his *Annual Report* on Epigraphy for 1906 (p. 82). It may be added that the name Prauḍhapratāpa-Dēvarāya was already assumed by Dēvarāya I.[1] A stone inscription of this second son under the name Śrīgirināṭha-Uḍayār, dated in Śaka 1348, has also been discovered.[2]

In the face of the inscriptional evidence furnished in a number of genuine copper-plate grants and stone records referred to above, we do not attach any value to conclusions differing from recorded facts as have been arrived at by the late Mr. T. A. Gopinatha Rao in editing the Śrīśailam plates, where he has vainly attempted to show that there was but one son of Vijayabhūpati, by name Dēvarāya. He has advanced no valid grounds for disproving the identity of Śrīgiri with Prauḍhapratāpa-Dēvarāya, the second son of Vijayabhūpati.

The first two sons of Vijayabhūpati being known by the name Dēvarāya, it is but natural to mistake the sons of one of the Dēvarayas for those of the other. But the fact mentioned in our inscription, *viz.* that Virūpāksha was the son of the second son of Vijayabhūpati, whom we have pointed out above to have borne the full name *gajavēṭṭai-kaṇḍaruḷiya* Prauḍhapratāpa Pratāpa Dēvarāya, is of importance as it conclusively controverts the commonly accepted view, *viz.* that Mallikārjuna and Virūpāksha were the sons of Dēvarāya II, the first son of Vijayabhūpati. In this connection, we may point out that two unpublished stone inscriptions furnish definite information. They come from Kundāṇi[3] in the Salem District and Conjeeveram[4] in the Chingleput District and state that Mallikārjuna and Virūpāksha were the sons of *Gajavēṭṭai-kaṇḍaruḷiya Prauḍha-pratāpa-Dēvarāya-Mahārāya*. Here the mention of the epithet Prauḍhapratāpa makes it certain that the king referred to is the younger son of Vijayabhūpati. Another stone inscription of Virūpāksha,[5] dated in the cyclic year Śārvari, calls him the son of Gajavēṭṭai-Pratāpa-Dēvarāya. It may be noted that while the mother of Virūpāksha was Śiddhaladēvī, the mother of Mallikārjuna was Ponnaladēvī, who must have been two different queens of *Prauḍhapratāpa*-Dēvarāya, the second son of Vijayabhūpati.

Our record is dated in Śaka 1389, expressed by the word *nav-āshṭa-guṇa-bhū*, Sarvajit, Kārttiga month, bright fortnight, Utthāna-dvādaśi. According to Dewan Bahadur L. D. Swamikkannu Pillai's 'Ephemeris,' this date corresponds to Monday, 9th November, A.D. 1467. It may be noted that the stone inscriptions of this king range in date from Śaka 1387,[6] Vyaya to Śaka 1407[7] from which it would appear that he ruled for at least ten years. But the latter date is very doubtful as the record is damaged.

The generals and officers of this king made known to us from inscriptions are Viṭṭharasa, Oḍeya,[8] Sāḷuva-Tirumalarāya,[9] Sāḷuva-Narasiṁha,[10] and Siṅgappa-(or Śiṅgaṇa-) Daṇḍanāyaka [11] Of these, Viṭṭharasa-Oḍeya was in charge of Bārakūru and Mangalore which he was governing from Śaka 1387 to 1398. Tirumalarāya was in charge of Trichinopoly and Sāḷuva-Narasiṁha developed into a usurper in later years. Two stone records of Virūpāksha in particular are

[1] No. 138 of the Madras Epigraphical Collection for 1889.
[2] No. 63 of the same collection for 1908.
[3] No. 203 ditto 1911.
[4] No. 39 ditto 1890.
[5] No. 661 ditto 1904.
[6] Nos. 130 and 153 of 1901.
[7] No. 398 of 1909.
[8] Nos. 30 and 153 of the Madras Epigraphical Collection for 1901.
[9] *Kōyiloḷugu* makes mention of this chief—see *Ind. Ant.*, Vol. XL, p. 141.
[10] See note 6, below.
[11] Nos. 29 and 153 of the Madras Epigraphical Collection for 1901.

worth mentioning in this connection, of which the one, dated in Śaka 1390, registers a gift by an agent of Sāḷuva-Narasiṁha, and the other, dated in Śaka 1394, records a gift for the merit of the same chief.[1]

The subjoined inscription registers (i) a gift of land situated to the west of the Hagarī river within the boundary of the village of Yammegēnūru in Mūḍa-nāḍu, a sub-division of Hastināvati-vaḷita, to a Brāhmaṇa resident of Niṭṭura, the son of Sāraṅgārya, learned in the Vēdas, Sāṅkhya and Mīmāmsā and reputed as the author of a work called *Bhāshya-Bhūshā*; (ii) gift of lands under the tanks called Kṛishṇa-taṭāka, Kariyakere and in the village of Chiṭukanāhāḷu to another Brahman named Virūpākshārya, a physician and the son of Rasēśvara; and (iii) gift of the village of Sōmalāpuram, with its name changed into Virūpākshapuram, to a certain Vīraṇārya, who, in turn, appears to have distributed it among Brahmans, dividing it into 60 *vṛittis*. The distribution of the full 60 *vṛittis*, among Brahmans is not given. But it is said that four Brahmans and three others connected with the issue of the copper-plate grant received 8½ shares. The account for the rest is omitted, but it is evident from the blank space preceding verse 46 that possibly one or more plates containing the names of the rest of the *vṛitti* holders, which were intended to be inserted, have not been so done. The description of the boundary marks too, which must have followed this verse, is omitted, as already remarked.

Of the geographical names found in this inscription, Niṭṭura, Chiṭukanāhāḷu, and Sōmalāpura are villages situated in the Bellary taluka; Hastināvatī is another name for Ānegondi near Hampi; Yammegēnūru is in the Bellary taluka at the place where it borders on Hospet; and the river Hagarī bears the same name even now. It is noteworthy that the old name Sōmalāpura is retained at present while its later name Virūpākshapuram given in Śaka 1389 has not survived. *Khāri*, according to the dictionaries, is equal to 3 bushels and perhaps indicates the extent of land by its sowing capacity. The two tanks, Kṛishṇa-taṭāka and Kariyakere, must be looked for also in the Bellary taluka.

The composer of the grant was Durga-Bhaṭṭa, son of Mādhavārādhya, who figures also in Ml. 121; and the engraver was the goldsmith Vīraṇārya, son of Muddaṇārya.[2] This engraver is perhaps identical with Vīraṇārya, the father of Mallaṇa, who incised the inscription Ml. 121.

[The following metres are employed: vv. 1-3, 5, 7, 11, 14, 15, 17, 20-53, *Anushṭubh*; vv. 4, 10, *Śārdūlavikṛīḍita*; vv. 8, 12, 13, 16, 19, *Upajāti*; vv. 6 and 18, *Upēndravajrā*; v. 9, *Mālinī*; and v. 54, *Śālinī*.]

TEXT.

First Plate.

1 श्रीगणाधिपतये नमः । नमस्तुं(स्तुं)गसि(शि)रश्चुंबिचंद्रचामरचारवे । त्रै-
2 लोक्यनगरारंभमूलस्तंभाय शंभवे ॥ [१*] रक्षायै जगतां भूयाद्दयाळुर्द्वि-
3 रदाननः [।*] पाथक्रीडाविधौ यस्य पल्वलंति पयोधयः । [२*]
[3]नमःश्त(स्त)श्मै(स्मै) वरा-
4 हाय यद्दंष्ट्रानाळमूर्द्धनि । सप्तद्वीपवती पृथ्वी लीलाब्जश्रीरदृश्य(श्य)तः[4] । [३*]

[1] No. 79 of the Madras Epigraphical Collection for the year 1919 and No 188 of the same collection for the year 1902.

[2] The Śrīśailam plates were also incised by the same person (see above, Vol. XV, p. 19) where the name of the person occurs as Vīraṇāchārya, son of Muddanāchārya.

[3] Cancel the *visarga*.

[4] Omit the *visarga*, लीलामृगिवदृश्यते is the reading in Ml. 121.

5 [1]अस्थि(स्ति) श्रीकमलालयानुजतया दीव्यन्नभोमंडले नक्षत्राधिपति[:*] प्र-
6 भाभिरनिसं(शं) दि[ङ्मं]डलोल्लासकृ[त्] [।*] क्षीराब्धिप्रभवः कलानिधिरि-
7 ति ख्यातसु(स्सु)धांसु(शु)[:*] श्व(स्व)यं ।[2] मौळौ यस्य(श्च) विभूषणत्वमगम-
च्छंभोर्भवा-
8 नीपते[:*] ॥ [४*] वंसे(शे) तस्यैव संजातो यदुर्नाम महीपतिः [।*]
यद्वंस(श)जेन भू-
9 [रे]षा वासुदेवेन पालिता । [५*] यस्मिन्स्संगरजिच्च[3](त्य)भंगुरभर[4] प्रत्यर्थिपृथ्वी-
10 भृतां [5]सार्थौ(र्थे)र्भंगमुपागतैरपि गता दिङ्मंडलो संभ्रमा[त्*] । तत्कीर्त्तिर्वि-
11 वरोषु[6] गच्छति पुरो दिङ्नाथवृंदेष्वहो सद्वृत्तः शशिमौळिमंडन-
12 मणि[:*] शो(सो)भूनृ(न्नृ)पः सगमः ॥ [६*] ततोभूद्बुक्कभूपालः सर्वभूप-
कुलाग्रणी[: ।*]
13 यत्प्रतापानले सर्व(र्वे) पतंगंत्यरिभूभृतः ॥ [७*] कर्नाटलक्ष्मी[:*] सविलास[मा]-
14 स यस्मिन्महीपे महनीयकीर्त्तौ(र्त्तौ) [।*] भूमिस्तथैवाप[7] वसुंधरात्वं स्थिरेति नाम
15 प्रथमं गुणौघै[8] ॥ [८*] उदयमुद[य*]शैलादुद्यदुद्दामतेजा[:*] शस(श)धर
इव बू(बु)क्कक्ष्मा-
16 [9]भृतःस्तुंगमौले । हरिहरनरपालः प्रापदास[ा](शा)[:*] समस्था(स्ताः) करधृत-
वसुपूरै[:*]
17 पूरयन् पूर्णधामा ॥ [९*] येनाकारि कलो(लिः) कृताधिकतरो येने(नै)ष
[घं]ट्टापत(थः) क-
18 र्मब्रं(ब्र)ह्मपयोजनो(नि)[10] प्रस(श)मिताशेषोपसर्गः परा(रं) [।*] येनांभोनिधि-
मेखला वसु-
19 म[ती ध]र्मेण संरक्ष(क्ष्य)ते तस्यानेकदिगीस(श)पालि[त][11]यशोबिंबस्य केनो-[12]
20 पम(मा) ॥ [१०*] [मे]ळादेवीति विख्याता श्रीपार्वत्योस्तु मेळना[त्*।]
सासीज्जाया[13] महीभर्त्तु[:*]

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[1] Ml. 121 has स्वस्ति.

[2] Delete the punctuation.

[3] जिच्च is also the reading in the Kannada-text of Ml. 121 (see p. 203 of *Ep. Carn.*, Vol. III); but it is read as जित्य in the romanised text given on p. 135. Read यस्मिन् संगर.°

[4] Read °भरैः.

[5] संघै° is the variant given in Ml 121.

[6] Read वरेषु.

[7] °स्तथा° is the reading in Ml. 121.

[8] गु is a correction from पु; read गुणौघैः.

[9] Read भृतस्तुङ्गमौलेः.

[10] Ml. reads पयोजनी.

[11] त is a correction from ह

[12] The Kannada text of Ml. 121 has सेनोपमा (p. 203 of *Ep. Carn.*, III) and the romanised text has *naivōpama ibid*, p. 135).

[13] Another variant of this is आसीद्भार्या which is found in Ml. 121.

21 स[र्व्वर्था][1] पुण्यलक्षणा ॥ [११*] इंद्रः स्वदोषं परिहर्त्तुकामो भूमावधोस्था(स्य) प्र-
22 तिपन्न[रूपः] [।] प्रतापपूर्व[ः*] किल देवरायः प्रतापतो भूमिमपालय-
23 [त्सः ।] [१*] प्रतापवह्नौ[2] परिलुंभमाणे शुष्कास्तुरुष्का अपि यस्य
राज्ञः [।*] रि-

Second Plate; First Side.

24 पुच्चितीश[।*]श्च निरस्तधैर्याः [3]कातारवल्मीकबिलात्मरक्षाः ॥[१३*] तस्य देमांबि-
25 काभर्त्तुः पुत्रः शत्रुप्रमर्दनः [।*] विद्यानिधिर्विशेषज्ञो वीरो विजयभूपतिः [॥ १४*]
26 तस्य नारायणीदेव्या[4] प्रादुरासीद्यशोधनः । प्रौढप्रतापविभवः प्रता-
27 पाख्यो महीपतिः ॥[१५*] गुणैर्(र)नेकै वनीतलेस्मिन्[5]न्विराजमानस्तु-
28 लितासकीर्त्तिः[ः *।] निजाग्रजात्[6] प्राप्तघनाद्विराज्यः सार्थीकृतार्थिव्र-
29 जपारिजातः ॥ [१६*] तस्य [7]शिङ्गलदेवीति भार्या सर्वगुणाश्रया ॥
30 लक्ष्मीना(र्ना)र[।*]यणसे(स्ये)व स(श्र)[ची]व[8] नमुचिद्विषः ॥ [१७*] तस्यां
सि(शि)वः प्रादुरभू-
31 दुणाख्यो नाम्ना विरूपाक्ष इति प्रसिद्धः [।*] राजाधिराजः क्षितिपा-
32 लमौलि[र्व्व]दान्यसूक्ति(क्ति)ः करुणैकसिंधुः ॥[१८*] निजप्रतापा[द]धि[ग]-
33 त्य राज्यं समस्तभाव्यै[ः*] परिसेव्यमानः [।*] खड्गा(ङ्गा)श्रयः[9] सर्वरिपून्वि-
34 जित्य स मोदते वीरविलासभूमिः ॥ [१९*] चु(छु)रिकाभालनेत्रो(त्रे)ति वि-
35 ख्यातः प्रतिपं(प)न्नधीः । भूरुरायरगंडांकः पररायभं(भ)यंकरः [।*]
36 सिंदुरायसुरत्राण इत्यादि बिरु[दो]न्नतः ॥ [२०*] तुंगभद्रानदीतो-
37 रे ।[10] विरूपाक्षस्य संनिधौ [।*] पित्र्यं[11] सिंहासनं प्राप्य पालयन्न(न्न)-
वनीमिमां [॥ २१*] पुं(पु)-
38 ण्यश्लोकाग्रगं(ग)ण्योसौ विरूपाक्षक्षितीश्व(श्व)रः । धर्मस्थानगतैः[ः]
39 सद्भिः संवृतो[12] धरणीसुरैः[13] ॥[२२*] शालिवाहननिर्णीतशकव-
40 र्षक्रमागते । न[वाष्ट]गुणभूवृत्ते सर्वजिद्वत्सरे शुभे [॥ २३*] मासे कार्त्तिक-

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[1] Perhaps the correct reading is सर्व्वथा or सर्व्वार्था; Ml. 121 has अनर्घा.

[2] Ml. 121 has वंह्नौ; read प्रतापवह्नौ.

[3] Read कांतार°. [4] Read देव्या°. [5] Cancel न्.

[6] See note 3, p. 4, above. [7] Ml. 121 has सिंहलदेवी.

[8] सची नमुचिविद्विषः is the reading in Ml. 121.

[9] The variant found in Ml. 121 is संगमतः.

[10] Cancel the *danda*. [11] दिव्यं is the reading that occurs in Ml. 121.

[12] संयुक्तो is another variant found in Ml. 121.

[13] The Kannada text of Ml. 121 has धरणीसुरैः, but the romanised text reads correctly सुरैः.

41 विख्याते सिते पक्ष[क्षे] विशेषतः । उत्थाना(न)द्वादसो(शो)पुणा(ण्य)काले चापि नृपो-

42 त्तमः [।] [२४*] राजाधिराजः[1]स्तेजस्वी यो राजपरमेश्वरः [।] [वि]रूपाक्ष-क्षितीशो-

43 ध(थ) धर्मबुद्ध्या युतः सुधीः ।[२५*] आत्रेयाय [2]रुगध्येत्रे निट्टुरस्थलवासि-

44 ने । सां(सा)रंगार्यसुतायाथ सर्वशास्त्रविदे तथा । [२६*] भाष्यभूषाक[रा]-

45 याथ सांख्यामोमांसवेदिने । [3]सौवशास्त्रप्रवाणोय चतुष(ष्ष)ष्टिकळा(ला)-

46 नि(वि)दे ।[२७*] षडंगसहितं वेदं वेदार्थं वेत्ति भूसुरः [।*] तस्मै द्विजाय भू-

47 [पालो] हस्तिनावतिवळितगं(गां) ।[२८*] मूडनाडस्थितं(तां) चैव हगरे[:*] प[श्चि]-

Second Plate; Second Side.

48 मे स्थितं(तां) । यंमेगनूरु सोंम्न्येव ।[4] खारो भूमिं महीपति[: ॥*] [२९*] प्रादात्तथा च स(म)हि-

49 तं क्षेत्रं सस्यफलप्रदं ॥[२९½*] भारद्वाजाय विदुषे ।[4] रसेश्वरसु-

50 ताय च । विरूपाक्षार्यभिषजे [5]रुक्शाखां(खा)ध्या[यि]-

51 ने तथा ॥[३०*] खारिसप्तप्रमाणं च [त]टाके कृष्णसंज्ञिते[।*] करियकेरे[6]र्ये-

52 ति विख्याते खारित्रयमितां भुवं ।[३१*] चिटुकनाहाळु नाम्न्येव खारित्रयमितां

53 भू(भु)वं । मिळित्वा खारिसंख्यां(ख्या)त्र त्रयोदश सुविश्रुता ॥[३२*] त्र(त)त्रस्थं ग्राममेकं तु सो-

54 मलापुरनामकं [।*] अस्माकं भो विरूपाक्षमहीनाथ ददस्व नः[7] । [३३*] इ[ति]

55 विज्ञाप्य भूभर्त्तुर्विरूपा[क्ष]महीपते[: ।*] वि(वो)रणार्य[:*] स्वयं लब्धा(ब्ध्वा) ग्रामं[8] चा[त्र]

56 महीस्व(श्व)रात् ॥[३४*] शृ(श्रु)त्वा विज्ञापनं तस्य विरूपाक्षमहीपति[:*] । [३५*] निधिनिक्षे-

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[1] Delete the *visarga*.

[2] Read ऋ°.

[3] Read सर्वशास्त्रप्रवीणाय.

[4] Cancel the *daṇḍa*.

[5] Read ऋ.

[6] The *ē* of रे seems to have been erased in the original.

[7] Either the word अस्माकं or नः should be cancelled; otherwise there would be redundancy.

[8] We should have expected वीरणार्येण संलब्धो ग्रामश्चात्रः. For the pleonastic use of the words महीपतेः and महीश्वरात् see above, note 1.

57 पसंयुक्तं जलपाषाणमिश्रितं । अच्छिद्रागामिसंयुक्तं ।[1] सिद्धसाध्यस-
58 मन्वितं ।[३६*] अष्टभोगैश्च संयुक्तं कुल्यारामसमन्वितं [।*] समस्तबलिसंयु-
59 क्तं सर्वमान्यं फलप्र[दं] । [३७*] तुंगभद्रानदीतीरे विरूपाक्षस्य सं(स)न्निधौ[।*]
60 सहिरं(र)ण्योदक(कं) दानधारापूर्वं यथाविधि [॥३८*] विरूपाक्षपुरं चेति-
61 प्रतिनाम विधाय च ॥ भोक्तुं दातुं द्विजेभ्यश्च प्रादादा[चंद्र]तारकं । [३९*]
62 सोपि द्विजश्च संतुष्ट[:*] संयुत: परया मुदा [।*] अकरं(रो)दाग्निषं राज्ञे
चिरं-
63 जीवी भवत्विति ॥[४०*] गोत्रं शाखा पितुर्नाम द्विजानां च यथास्थितं [।*]
लिख्यं-
64 ते वृत्तिसंख्याश्च षष्टिसंख्या यथाक्रमात् [॥ ४१*] श्रीवत्सो [2]ऋगधीतश्च [द्वेम]-
65 णार्यसुत: सू(सु)धी: [।*] मल्लिभट्टेति विख्यो(ख्या)तो वृत्तिमेकामिहाश्नुते ॥
[४२*] वासि-
66 ष्टो(ष्ठो) ऋगधीतश्च[4] वल्लंभट्टस्तु[त:] सुधी[:*] । [दु]र्गाभट्टेति[5] विख्यातो
वृत्तिमे[का]मिहाश्नु-
67 ते ॥[४३*] हारीतो [6]ऋगधीतश्च हंपणार्य[सु]त: सुधी[:] [।*] [सारंगार्यश्च
वि]ख्यात[:*] सार्धं[मेक]-
68 . .[स]: [॥ ४४*] आत्रेयोथ ऋगध्येत भायणा[र्य]स्य [नंदन]: [।*] भायिभट्टो
द्विजश्रेष्टो(ष्ठो) वृत्ति-
69 [द्वयमि]हाश्नुते ॥[४५*]

Third Plate.[8]

70 [9]तैस्तै[स](स्म)मन्वितश्चित्रै[10]र्दि-
71 व्यं प्रास्या(च्या)दिषु क्रमात् [।*] सोमानोश्या(स्या)ग्रहारस्य लिख्यंते
देष(श)भाषया [॥४६*]
72 वासिष्टो(ष्ठो) बं(व)ह्व(ह्व)चो विद्वान्
73 ऐतयार्यसुत: सुधी: [।*] वल्लभो रायसख्या(स्वा)मि(मो) वृत्ति[11]मेकामिहाश्नुते ॥
[४७*]

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[1] Cancel the *daṇḍa*. [2] च्चं is a correction from च्च. [3—4] Read ऋगधीतश्च.

[5] Read °भट्ट इति. [6] Read ऋगधीतश्च. [7] Read ऋगध्येता.

[8] At the top of this plate, a little below the right side of the ring-hole, is the letter *ri* which I am not able to explain.

[9] The line begins about the middle of the plate.

[10] Like वन्द्यो in line 23 न्द्यो is written with *n* preceding *ha*. The grammatically correct form would be *vice versâ*.

[11] The two syllables मेका are written over an erasure.

74 त्वष्टा श्रीमुद्दणाचार्यसूनुः शासनले[ख]कः [।*] वीरणः सुगुणो धीमा[न्]
75 वृत्तिमेकामिहाश्नुते ॥[४८*] आत्रेयो याजुषो धीमान्माधा(ध)वाराध्यनंद-
76 नः [।*] [1]शासनः[1] ग्रंथकृद्विद्वान् दुग्गा(र्गा)भट्टोत्र वृत्तिभाक् ॥[४९*]
दानपाल[नयो]-
77 र्मध्ये दानाच्छे(च्छे)योनुपालनं [।*] दानास्व(त्स्व)र्गमवाप्नोति पालनादच्चु(च्यु)तं
78 पद ॥[५०*] स्वदत्ताद्वि(द्वि)गुणं पुं(पु)ण्यं परदत्तानुपालनं [।*]परदत्ताप[हारे]-
79 ण स्वदत्तं निष्फलं भवेत् ॥[५१*] स्वदता(त्तां) [2]परदत्तां वा यो हर(रे)त
वसुं-
80 धरां । षष्टिर्व[रुस][3]हस्राणि विष्टायां जायते क्लि(कृ)मि[:*] ॥ [५२*]
एकैव भगि-
81 नी लोके सर्वेषामेव भूभुजां [।*] न भोज्या न ख(क)रग्राहा(ह्या)
विप्रदत्ता [वसुं]-
82 धरा ॥ [५३*] सामान्योयं धर्मसेतुं[4]नृपाणां काले काले पाल[नीयो]
भवद्भि[:] [।*]
83 सर्वाने[ता]न् भाविनः पार्थिवेंद्रान् भूयो भूयो याचते राम[चंद्रः] ॥[५४*] श्री[॥*]
84 Śrī-Virūpāksha.[5]

TRANSLATION.

(Line 1.) Obeisance to Gaṇādhipati.

(V. 1.) Invocation to Śiva [by the common verse *namas=tuṅga*, etc.].

(V. 2.) May the merciful elephant-faced (god), in the course of whose water-sport the oceans become (mere) ponds, protect the worlds.

(V. 3.) Salutation to that boar, at the tip of whose stalk-like snout, the earth, comprising the seven islands, seemed (*to possess the beauty of*) a lovely lotus.

(V. 4.) There is the Lord of stars (*i.e.* Moon), the younger brother of her who resides in the lotus (*i.e.* Lakshmī), who shines in the region of the firmament with his (lustrous) ray and constantly illuminates the quarters, who is born of the milk-ocean and is renowned as the depository of *kalas* (digits), himself being made of nectar rays and who has obtained the position of a jewel in the head of Śambhu, the consort of Bhavānī (*i.e.* Pārvatī).

(V. 5.) In his family was born the king named Yadu; and this world was protected by Vāsudēva who was born in that family.

(V. 6.) There was king Saṅgama of good conduct, wearing Śaśimauli (Śiva) as an ornamental jewel; on whose victory in battles, the crowds of enemy kings heavily burdened (with numbers) though vanquished reach the cardinal points in great haste; (but) whose (*i.e.*, the King's) fame moves further on (passing) through intervening spaces amidst lords of the (eight) directions.

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[1] Cancel the *visarga* after न.

[2] The rest of this line and the next line up to क्लृमिः are written on an erasure.

[3] Read °र्वर्षस°.

[4] Read °सेतुर्नृपा°.

[5] In Kannaḍa characters.

(Vv. 7 and 8.) Then came king Bukka, the foremost of the kingly race, in the fire of whose valour the hostile rulers were consumed as moths. In this king of great fame, the goddess of prosperity of the Karnāta (kingdom) rested with pleasure. And the goddess of the earth also for the first time realised the (significance of her) names *Vasundharā* and *Sthirā* on account of her qualities of bearing wealth and remaining permanent.

(V. 9.) Like the moon of bright lustre rising from the Udaiya-Śaila of lofty peak, king Harihara of rising full glory took his birth from king Bukka who wore a splendid crown and filled all the quarters with abūndant wealth acquired by taxation as the moon with the exuberent lustre of his rays.

(V. 10.) What could stand comparison with him the reflection of whose fame is protected by the deities of the quarters, by whom the (stern) Kali age has been turned into one better than the (golden) Kṛita age; by whom was caused the highway of the school of philosophy which considers Duty (*Karma*) as god (Brahmā) free of all obstacles, and by whom the earth, having for (its) girdle the oceans, was ruled with justice.

(V. 11.) She, who was called Mēḷādēvī because she was a combination of Śrī (*i. e.* Lakshmī) and Pārvatī and was in every way possessed of auspicious marks, was the consort of this king.

(Vv. 12 and 13.) Indra, desirous of removing his stains, obtained on earth the form of this (king) and in the name of Dēvarāya, with Pratāpa prefixed to it, ruled the world with his prowess. In the glowing fire of this king's valour, the Turushkas were scorched up and (other) hostile monarchs, with (their) bravery lost, sought self-protection in forests and ant-hills.

(V. 14.) The son of this husband of Dēmāmbikā was Vijayabhūpati, the destroyer of his enemies, the store-house of learning, of supreme knowledge and a hero.

(Vv. 15 and 16.) To him, through Nārāyaṇidēvī, was born the king called Prataṇa, renowned as Prauḍhapratāpa, who had fame for wealth. He shone on this earth with many virtues, obtained fame by meritorious deeds, got the (*kingdom*) of Ghanādri-rājya from his (uterine) elder brother and was a Pārijāta in granting their desired objects to crowds of mendicants.

(V. 17.) His wife was Śiddalādēvī, the resort of all good qualities, like Lakshmī to Nārāyaṇa and Śachī to the enemy of Namuchi (*i.e.* Indra).

(V. 18.) Śiva (himself) was born of her under the well-known name of Virūpāksha, full of good qualities, a *rājādhirāja*, the head-ornament of kings, a munificent person and the one ocean of mercy.

(V. 19.) Acquiring the kingdom through his own prowess, attended with all kinds of prosperity, and conquering all his enemies with the point of his sword, he, as the play-ground of heroism, rejoices.

(V. 20.) He who is renowned as *Chhurikā-Bhālanētra* (*i.e.* Śiva in wielding the sword) and ripe of wisdom holds the high (sounding) titles, such as *Mūrurāyaragaṇḍa*, *Pardrāya-bhayaṅkara* and *Hinḍurāyasuratrāṇa*.

(Vv. 21 to 29.) On the bank of the Tuṅgabhadrā river (and) in the presence of (the god) Virūpāksha, having obtained his ancestral throne, this king Virūpāksha, the foremost (among those) possessing noble virtues, rules the earth, surrounded by pious Brāhmaṇas assembled in his court. In the course of the Śaka years determined by the Śālivāhana-[Era], in the excellent year Sarvajit (corresponding to the year) expressed by *nine*, *eight*, *guṇas* (three) and *bhū* (one) (*i.e.* 1389), on the auspicious occasion of *Utthānadvādaśi*, in the bright half of the month of Kārttika, he, the best of kings, the wise Virūpāksha, a *rājādhirāja* (and) *rājaparamēśvara*, of great valour, with the intention of making charity, made a grant to a Brāhmaṇa resident of Niṭṭura, who was the son of Sāraṅgārya, who belonged to the Ātrēya-[*gōtra*], and was a student of the Ṛik-[*Śākhā*], who was well versed in all the *Śāstras*, who knew the sixty-four arts

as well as the Sāṅkhya and the Mīmāmsā (systems of philosophy), who was learned in the Vēdas and the six *aṅgas* (branches) with their meaning, and who was the author of the *Bhāshya-Bhūshā*, of (one) *khāri* of land situated to the west of the Hagarī (river), within the boundary of (the village of) Yammegēnūru in Mūḍa-nāḍa and in (the sub-division of) Hastināvatī-vaḷita.

(Vv. 30 to 32.) Again he gave to the scholar and physician Virūpākshārya, son of Rasēśvara of the Bhāradvāja-[*gōtra*] and a student of the Ṛik-*Śākhā*, 7 *khāri* of valuable land yielding grain and fruit under the tank called Kṛishṇa, 3 *khāri* of land under (the tank) known as Kariyakēre and of 3 *khāri* of land in (the village) called Chiṭukanāhāḷu—thus in all, the number of 13 *khāris*.

(Vv. 33 to 39.) Having petitioned thus to king Virūpāksha "Oh! King Virūpāksha! grant me the village situated there named Sōmalāpura", Vīraṇārya obtained from the king the (said) village. On hearing the request, king Virūpāksha made, in the presence of the god Virūpāksha on the bank of the river Tuṅgabhadrā, a *sarvamānya* gift with gold and water, accompanied by libation of water as laid down by rule, of the fertile village (Sōmalāpuram) with all its royal revenue[1], together with canals and gardens, with its name changed into Virūpākshapuram,—for being enjoyed as long as the Moon and the Sun endure, or for being given away to Brāhmaṇas,—together with the eight kinds of enjoyment, *i.e.* (the right to own) the *nidhi, nikshēpa, jala, pāshāṇa, akshiṇī, āgāmi, siddha,* and *sādhya*.

(V. 40.) The Brahman too, pleased and overpowered with joy, blessed the king with long life.

(V. 41.) (Here) will be written, in order, the *gōtra, śākhā* and the father's name and the names of the Brahmans. The number of *vṛittis* (who received shares in the village) is sixty.

(Vv. 42 to 45 contain the names of four of these donees.)

Verse.	Name of the donee.	Father's name.	Gōtra.	Śākhā.	Number of *vṛittis* owned.
42	Malli-Bhaṭṭa	Hēmaṇārya	Śrīvatsa	Ṛik	1
43	Durgā-Bhaṭṭa	Vallaṁ-Bhaṭṭa	Vāsishṭha	Do.	1
44	Sāraṅgārya	Hampaṇārya	Hārīta	Do.	1½
45	Bhāyi-Bhaṭṭa	Bhāyaṇārya	Ātrēya	Do.	2

(V. 46.) The boundaries of this Brahman village (*agrahāra*) with their respective marks are written (below) in the language of the country, in the four directions commencing with the east, in order.

(V. 47.) The wise and learned Vallabha, son of Aitayārya, and the chief of the Secretaries (*Rāyasa*) belonging to the Vāsishṭha-[*gōtra*] and the Bahvṛicha-[*Śākhā*], holds one *vṛitti* (in this village).

(V. 48.) The intelligent smith Vīraṇa of virtuous qualities, (who was) the engraver of this document and the son of the prosperous Muddaṇāchārya, holds one *vṛitti* (in this village).

(V. 49.) The learned and intelligent Durgā-Bhaṭṭa of the Ātrēya-[*gōtra*] and the Yajus-[*Śākhā*], the composer of this document and the son of Mādhavārādhya, owns one *vṛitti* (in this village).

(Vv. 50 to 54.) [Five of the usual imprecatory verses.]

(Line 84.) *Śrī-Virūpāksha.*

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[1] The word बलि has perhaps to be corrected into बलि

No. 15.—THE BRAHMA-SIDDHĀNTA OF BRAHMAGUPTA, A.D. 628:

Mean System.

By Robert Sewell (I.C.S., Retired).

(*Continued from Vol. XVII, p. 187.*)

321. The Tables published in my last article (*above, Vol. XVII*) enabled the dates of ancient Indian inscriptions and records to be verified according to the requirements of the *Brahma-Siddhānta* with, as basis of calculation, the "true" or apparent motions of sun and moon. This mode of reckoning appears to have been introduced in the 11th century A.D. But the *Brahma-Siddhānta* was composed in A.D. 628 and for at least four centuries after its appearance details for the Calendar were almost certainly based on mean planetary motions; while it is believed that this mean system continued to guide the preparation of *pañchāngas* (almanacs) till a much later date—perhaps for several centuries in some parts of the country.

For the correct verification, therefore, of early dates it is necessary for historians to be provided with a set of Tables based on mean planetary motions and the postulates of the *Brahma-Siddhānta* in addition to those based on mean motions and the postulates of the *Ārya-Siddhānta*. The latter were provided in a previous article in this volume. The former are presented herewith. They cover a period of 800 years, from K.Y. 3700 to 4500, or from A.D. 599 to 1400.

The system of work is the same as in all my previous Tables, that is to say, it is the system of Largeteau as adopted by Professor H. Jacobi in the *Indian Antiquary*, Vol. VIII, and in the *Epigraphia Indica*, Vol. XI. Full examples shewing the method of work, which is very simple, are given in my former articles; others, specially concerning the system of mean reckoning on *Brahma-Siddhānta* principles, are given below.

In case of doubt as to which of the Tables already published should be used in the present case attention is directed to the accompanying § 329.

322. In examining the dates of records in earlier years it is necessary to remember that the modes of reckoning adopted were not always the same as those used in more recent years. As to eras, reference to articles 6-12 of my former work, *Indian Chronography*, is recommended. For other matters the late Dr. J. F. Fleet's remarks in the *Journal of the Royal Asiatic Society* for 1912, pp. 704-5, will be found very valuable.

Especially let it be borne in mind that the lunar month reckoning in early years was probably carried out on the *pūrṇimānta* system. According to the late Professor Kielhorn the earliest known date certainly in *amānta* reckoning belonged to the year A.D. 794. It is contained in the Paiṭhān plates of the Rāshṭrakūṭa king Gōvinda III (*Epig. Ind.*, III, 105; *Ind. Ant.*, XVII, p. 142, No. 9). As regards these two systems, the *amānta* and *pūrṇimānta* names of lunar months, see *Indian Calendar*, §§ 13, 45 (with Table on p. 26), 47, 51, and the late Sankara Balkrishna Dikshit's footnote on p. 31; also *Indian Chronography*, §§ 75, 76, p. 31.

Elements of the Brahma-Siddhānta mean reckoning.

323. The principal elements are fully stated in my former article on this authority (*above*, Vol. XVII, § 313). For calculation on the mean system the following notes are necessary.

(i) The length of the mean sidereal solar year is $365^d\ 6^h\ 12^m\ 9^s$, a fixture afterwards adopted by Bhāskarāchārya in his *Siddhānta-Śiromaṇi*, A.D. 1150.

(ii) The advance of *a* (distance of mean moon from mean sun)—which finally fixes the index of the *tithi* ($\frac{1}{30}$th of a mean lunation) in measurement by 10,000ths of circle—in every civil day of 24 hours and in hours, minutes and seconds, has already been given for the *Siddhānta-Śirōmaṇi* in Tables LIV, A and B (*above*, Vol. XV). These Tables are applicable to the *Brahma-Siddhānta*.

(iii) For the sun's mean motion per day, hour, minute, etc., see Tables XLIII and XLIV (*above* Vol. XIV).

(iv) The advance of *a* in one mean solar month is, in 10,000ths of circle, 307·349156595.

(v) Each solar month consists of $30^d\ 10^h\ 31^m\ 0^s{\cdot}75$. Table XCI below shews the interval of days, hours, etc., between the moment of mean Mēsha-*saṁkrānti*, when the mean sun is at celestial long. 0° (*Table XC, cols. 13-17*), and the moment of each subsequent *saṁkrānti* when the mean sun enters each of the twelve signs; and so enables the day and time when each mean solar month begins to be ascertained. The same Table gives the advance of *a* from its value at the moment of mean Mēsha-*saṁkrānti* to the same at each subsequent *saṁkrānti*.

(vi) The interval between the moments of true and mean Mēsha-*saṁkrānti*, i.e. between the moments of the astronomical beginning respectively of the true and mean solar year, which interval we call the *śōdhya*, varies slightly year by year in consequence of the postulated shift of the sun's apsis (§ 313, VII, *above*). The exact intervals, century by century from K.Y. 3700 to 4300, were given above in § 315. The Table is here repeated and extended so as to embrace the whole period of the general Table XC below. The quantities were computed by Dr. Robert Schram.

TABLE B

(*above*, p 126.)

Value of *śōdhya* by the *Brahma-Siddhānta*.

Kaliyuga.	A.D.	Śōdhya at beginning of centuries.				
		D.	H.	M.	S.	Days and decimals.
3700	599-600	2	4	8	59·8128	2·1729145
3800	699-700	2	4	9	2·0160	2·1729400
3900	799-800	2	4	9	4·2192	2 1729655
4000	899-900	2	4	9	6·4224	2 1729910
4100	999-1000	2	4	9	8·6256	2·1730165
4200	1099-1100	2	4	9	10·8288	2·1730420
4300	1199-1200	2	4	9	13·0320	2 1730675
4400	1299-1300	2	4	9	15·2352	2 1730930
4500	1399-1400	2	4	9	17·4384	2·1731185

The moment of mean Mēsha-saṁkrānti, or the beginning of the mean solar year.

324. The general Table which follows (Table XC, *cols. 13-17*) states the moment of beginning of each mean solar year according to the *Brahma-Siddhānta*. The first entry is for the expired year 3700 of the Kaliyuga (A.D. 599-600), in which year the astronomical beginning is fixed as at $5^h\ 15^m$ after mean sunrise on Saturday, 21 March, A.D. 599. It is incumbent on me to prove the correctness of this fixture. Subsequent entries are based on it by the addition to it year by year of $365^d\ 6^h\ 12^m\ 9^s$. Proof may be offered in three ways:—(A) by comparison with the date and time already found for the beginning of the true solar year K.Y 3700, utilizing Dr. Schram's determination of the interval between the two occurrences; (B) by comparison with the date and time fixed for the beginning of the same mean solar year according to the *First Ārya-Siddhānta*, allowing for the time difference between the two authorities caused by their different estimate as to the length of the mean solar year, viz. 21^s; (C) by direct computation from the moment in K. Y. 0 of mean Mēsha-*saṁkrānti*, 3,700 years earlier, which, according to the *Brahma-Siddhānta* (§ 313, v, above), was exactly at mean sunrise, or $0^h\ 0^m\ 0^s$ Laṅkā time, on Friday, 18 Febr. (B.C. 3102).

A

			h.	*m.*	*s.*
Moment of true Mēsha-*saṁkrānti* in K. Y. 3700 (A.D. 599) (*Table LXXXII, Vol. XVII, above*).	(5) Thur.,	19 Mar.	1	6	0·1872
Śōdhya as above (§ 323, Table) . .	+(2)	2	4	8	59·8128
Moment of mean Mēsha-*saṁkrānti* .	(0) Sat.,	21 Mar.	5	15	0

B

[See *Indian Calendar*, Table I, cols. 13-17, for A.D. 599-600.]

			h.	*m.*	*s*
True Mēsha-*saṁkrānti* by *Ārya-Siddhānta*	(5) Thur.,	19 Mar.	23	17	30
Ārya-Siddhānta śōdhya . . .	+(2)	2	3	32	30
Mean Mēsha-*saṁkrānti* by *Ārya-Siddhānta*	(1) Sun.,	22 Mar	2	50	0
Less Time-difference in 3,700 years[1] .			−21	35	0
Mean Mēsha-*saṁkrānti* by *Brahma-Siddhānta*	(0) Sat.,	21 Mar.	5	15	0

C

The epoch of the Kaliyuga was $0^h\ 0^m\ 0^s$ Laṅkā time, or exactly at mean sunrise on Friday. The length of the mean solar year being $365^d\ 6^h\ 12^m\ 9^s$, the beginning of the next mean solar year took place $6^h\ 12^m\ 9^s$ after mean sunrise; and after the expiration of a century from the epoch the mean solar year began at $20^h\ 15^m\ 0^s$ after mean sunrise; so that after 37 centuries had passed the mean solar year K.Y 3700 began at $5^h\ 15^m\ 0^s$ after mean sunrise.

When this latter calculation is carried out century by century, the figures shew that centuries 6, 12, 19, 25 and 32, five in all, were defective centuries consisting each of 36,525 days, the remainder being common centuries of 36,526 days. Since 36,526 divided by 7 leaves no

[1] See Table, § 273, in Article on the *Siddhānta-Śirōmani* (*Vol. XV above*), which is equally applicable to the *Brahma-Siddhānta*; or refer to *Indian Chronography*, p. 61. The time-difference in 3,000 years is $17^h\ 30^m$, in 700 years $4^h\ 5^m$, total $21^h\ 35^m$.

remainder and 36,525 divided by 7 leaves remainder 6, the results shew that whereas century 0 began on a Friday, century 37 began on a Saturday.

Table XC therefore, as regards the moment of mean Mēsha-*saṁkrānti* in K.Y. 3700 expired, A.D. 599-600, is proved to be correct.

The beginning of the mean luni-solar year, i.e. the civil day on which the tithi Chaitra śukla 1 expired; and the value of a (mean tithi-index) at mean sunrise of that day. Amānta system.

325. In § 317 of my article on the *Brahma-Siddhānta* as calculated by the true motions of the sun and moon (*above*, Vol. XVII) it will be seen that the value of *a* at mean sunrise of Sunday, 22 March, A.D. 599 (K.Y. 3700) was proved to be, in measurement by 10,000ths of a circle, 6567·108945284. The mean solar century, however, began on the previous day, Saturday, 21 March. Deducting one day's value of *a*, viz. 338·631985412, from the above, we find that at mean sunrise of that Saturday the value of *a*, or the mean moon's distance from mean sun, was 6228·476959872. This was its value at the beginning of the 37th century K.Y. Hence the first entry in Table XCII below which gives the values at mean sunrise on the day on which each century began. The remaining figures in that Table were obtained by the addition to this value of the increase of *a* in a century. [See § 316 of the same article. The increase of *a* in a century of 36,525 days is 997·678896964, and in a common century of 36,526 days is 0·416684507.] Centuries 38 and 44 were defective centuries; the rest were common ones. For the beginnings of the odd years of centuries Table LXXXVII was used, the value of *a* there given being added to that for the century.

Thus was determined the value of *a* at mean sunrise of the day on which each mean *sōlar* year begins (*see Example 1 below*). From this is found the value of *a* at mean sunrise of the day on which the *luni-solar* year begins.

326. The first day of the luni-solar year is, according to the general rule, the civil day on which expired the first *tithi* of the bright half (*śukla*) of the *amānta* lunar month Chaitra, i.e. the *tithi* which begins at the moment of the first new moon after the Mīna-*saṁkrānti*, or at the moment of the new moon when that *amānta* lunar month begins within the limits of which the Mēsha-*saṁkrānti* occurs. Having already established the value of *a* on the day in any year on which mean Mēsha-*saṁkrānti* occurred, we have to subtract from that value the increase of *a* in whole days between the two dates, the day on which the luni-solar year began being the earlier. The first 30 days' entries in Table LIVA (*above*, *Vol. XV*) enable this to be done. We select in that Table the *a* in col. 3 the value of which is next lower than the *a* of mean Mēsha-*saṁkrānti*, and the Table then shews in col. 1 the number of intervening days, and therefrom the European day and month, and, by subtraction, also (col. 2), the week-day. Deducting the selected *a* from the *a* of mean Mēsha-*saṁkrānti*, we have the *a* of mean sunrise of the day, Chaitra *śukla* 1, on which the mean luni-solar year begins.

Thus,—mean Mēsha-*saṁkrānti* of the year K.Y. 3700, A.D. 599-600, was shewn in § 325 to have occurred on (0) Saturday, 21 March A.D. 599, at mean sunrise on which day the mean moon's *tithi*-index *a* was 6228·4770. In Table LIVA, amongst the values of *a* in the first 30 days, it is seen that the next lower value is 6095·3757. 6228·4770 − 6095·3757 = 133·1013[1]. *Col. 1* shews that the interval of days was 18, and col. 2 shews the week-day 4. Mean Mēsha-*saṁkrānti* occurred on (0) Saturday. 0 (or 7) − 4 = 3 Tuesday. It is therefore found that the day Chaitra *śukla* 1, the first civil day of the mean luni-solar year, was (3) Tuesday, 3 March A.D. 599, and that the value of *a* at mean sunrise on that day was 133·1013, shewing the currency of the *tithi śukla* 1. This is the entry in Table XC below.

It comes to the same thing if the *a* of Table XCIII below is added to the *a* of mean Mēsha-*saṁkrānti*, the Table being prepared for that purpose. The *a* of mean Mesha-

[1] All values of *a* below 333·3 prove the *tithi* to have been the first of the *amānta* lunar month, *i.e.*, the first *tithi* of the first (*śukla*) fortnight.

saṁkrānti was 6228·4770. We select such a value of *a* in col. 3 of that Table as, added to the former, makes a value between 0 and 333·3̇, the limits of the *tithi śukla* 1; and note the interval of days, and the week-day resulting by addition of the given week-day (col. 2) to the week-day of mean Mēsha-*saṁkrānti*. Here the selected value of *a* is 3904·6243, since 6228·4770 + 3904·6243 = 133·1013. The interval of days is 18 (col. 1). The week-day corresponding to the day Chaitra *śukla* 1 is (0 + 3 =) 3. The result is the same as obtained by the former process.

All the entries in the general Table XC, cols. 19-23, can be proved in this way.

To find the exact phase of the mean moon, i.e. the mean *tithi*-index *a*, on any day of any year, or at any particular moment of any day, it is only necessary to add to the value of *a* given in col. 23 of Table XC for the first day of the luni-solar year the amount of increase of *a* during the intervening whole days, hours, etc., given in Tables LIVA and B (*above*, Vol. XV).

The pūrṇimānta system of lunar months.

327. The *amānta* lunar month begins at the moment of new moon, the *pūrṇimānta* month at the moment of full moon a fortnight earlier; so that the fortnight (*śukla*) between new moon and full moon bears the same month-name by both systems, while the fortnight (*krishna*) between full moon and new moon bears, in the *pūrnimānta* system, the name of the lunar month next after that which it bears in the *amānta* system. The *śukla* fortnight of the first lunar month, for instance, belongs to Chaitra by both systems. The following *krishna* fortnight, however, belongs to Chaitra by the *amānta* system, but to Vaiśākha by the *pūrṇimānta* system.

This should always be borne in mind when examining dates of inscriptions, especially in earlier years. For references to already published explanations see § 322 above, and for a Table of corresponding fortnights and lunar months see *Indian Calendar*, Table II, Part I.

The mean moon's nakshatra.

328. The note on this subject already given (§ 308) in dealing with calculation by the *First Ārya-Siddhānta mean system* (*above*, Vol. XVI) applies equally to the *Brahma-Siddhānta* mean system. It is unnecessary to repeat it.

Tables LXXX and LXXXI, fixing the sun's mean longitude for every day of the mean solar year according to the *First Ārya-Siddhānta*, may safely be used for general calculation by the *Brahma-Siddhānta*, since the difference between the two authorities in their estimates of the length of the year only amounts to 21 seconds.[1] But in any exceptionally close case the exact value, at mean sunrise of any day in the year, of *s*, or the sun's mean longitude, can be found by multiplying the sun's mean motion in one day (Table XLIII, Vol. XIV *above*), by the number of days' interval between the day on which mean Mēsha-*saṁkrānti* occurred and the given day. The sun's mean motion in one day by the *Brahma-Siddhānta* is 59^{m} 8^{s}·172655, or in 10,000ths of circle 27 377875426.

The *Rule for work* is as follows. (i) Find, as above, value of "*a*" at mean sunrise of given day. (ii) Note number of whole days intervening between the day of mean Mēsha-*saṁkrānti* (Table XC *below*, *col. 13, figure in brackets*) and the given day. Turn to Table LXXX and note the increase of sun's mean long., "*s*", during that interval. Deduct from this, by Table LXXXI, the increase of long. during the hours and minutes stated in col. 17 of Table XC. The result is the sun's mean long., *s*, at mean sunrise of given day. (iii) Add *s* to *a*. This = *n*, the required index of the mean *nakshatra*, or the mean moon's place in the heavens at that moment. Table LXVIII above, or Table VIII, *Indian Calendar*, will shew in which *nakshatra* the mean moon stood at the time.

[1] In measurement by 10,000ths of circle the total difference in 365 days is 0·00665, by which amount the *Brahma-Siddhānta* is the greater.

The 19-year intercalation cycle.

329 [See *Indian Calendar*, § 50, p. 29, and notes in previous articles above on the working of the cycle by different systems.] The sequence in the present case works perfectly regularly except in four instances. In every case except these, after four successive intercalations of the same lunar month at intervals of 19 years each, the intercalated month gives way to the month next preceding it. The exceptions are—a run of five mean intercalary Bhādrapadas between A.D. 746 and 822, five Āśvinas between 952 and 1009, five Kārttikas between 1120 and 1196, and five Paushas between 1231 and 1307.

Working Tables.

330. For general guidance the following Tables, as given for work by the *Ārya-Siddhānta* (*above*, Vol. XVI), should be used, or the similar Tables published in the *Indian Calendar*.

Table LXII, or *Ind. Cal.*, Table II, Parts I and II, for names of months and *nakshatras*.

Table LXIIIA, or *Ind. Cal.*, Table III, Part I, for collective duration of mean lunar months

Table LXVIII, or *Ind. Cal.*, Table VIII, for indices of *tithis*, *karanas*, *nakshatras* and *yōgas*.

Table LXIX, or *Ind. Cal.*, Table IX, for the serial number of days of the year and their names and numbers in European reckoning.

Table LXX, or *Ind. Cal.*, Table X, for conversion of the indices of *tithis*, *nakshatras* and *yōgas* into time.

Table LXXI, the European Calendar for 23 centuries. [Table XIII, *Indian Calendar*, may also be used, but the former is easier.]

Table XCI below gives the collective duration of mean solar months, measured from the moment of mean Mēsha-*saṁkrānti*, the astronomical beginning of the mean solar year; also the increase of *a*, the mean *tithi*-index, during the interval

Table XCII shews the value of *a* at the beginning of each mean solar century of the Kaliyuga, that is to say, its value at mean sunrise of the day on which each such solar century began.

For odd years of such centuries Table LXXXVII (*above, Vol. XVII*) is to be used in conjunction with Table XCII, addition of the two given values of *a* yielding the value of *a* at mean sunrise of the day on which each mean year of the Kaliyuga solar century began.

For increase of *a* in subsequent days, hours, etc., in any K.Y. year, or any moment of any day Tables LIVA and B (*above*, Vol. XV) are to be used.

The use of Table XCIII is explained in § 326 above.

Table XCIV-A to F enables the units and decimals of units of results obtained from our system of reckoning in measurement by 10,000ths of a circle, to be converted readily into time, if required. The same can be converted into space-measurement in degrees, etc., by Table XLVB (*above*, Vol. XIV).

EXAMPLES.

[*N B*—Work may always be done in whole numbers, resorting to decimals only in close cases.]

Example 1. To find the mean tithi-index, or phase of moon, at mean sunrise of the day on which mean Mēsha-saṁkrānti occurred in any year.

This is a necessary operation for finding the *tithi*-index *a* at the *moment* of mean Mēsha-*saṁkrānti*, which is obtained by addition of the *a* of subsequent hours, minutes, etc., to the *a*

of mean sunrise. [The intercalation of lunar months is decided by the value of a at the moment of mean Mēsha-*saṁkrānti*.] Two cases are considered, A and B.

A. Take the year Kaliyuga 3851 expired. This was the Śaka year 672 expired. It began (Table XC, *cols. 13-17*) astronomically at $5^h\ 49^m\ 39^s$ after mean sunrise on Sunday, 22 March A.D. 750. We want to know the moon's phase, as shewn by the *tithi*-index a, at mean sunrise of that day. ["*w.-d.*"=week-day.]

	w.-d.	*a.*
(*Table XCII.*) At beginning of K.Y. Century 38, mean sunrise	(0)	5100·3761
(*Table LXXXVII.*) At beginning of K.Y. year 51, do.	(1)	8036·6243
At mean sunrise on the Sunday in question . . .	(1)	3137·0004

B. The year K.Y. 3849, Śaka 670 both expired. This began (*Table XC*) at $17^h\ 25^m\ 21^s$ after mean sunrise on Thursday, 21 March A.D. 748. The first result shews the a for mean sunrise on Friday, 22 March, and the a for one day has to be deducted. This is due to the fact that Table LXXXVII has to serve for all K.Y. centuries, common or defective. The correction required is never more than that for one day.

(*Table XCII.*) At beginning of K.Y. Century 38, mean sunrise	(0)	5100·3761
(*Table LXXXVII.*) At beginning of K.Y. year 49, do.	(6)	835·2749
At mean sunrise on Friday, 22 Mar.	(6)	5935·6510
Deduct one day's value of a	−(1)	−338·6320
At mean sunrise on Thursday, 21 Mar.	(5)	5597·0190

Example 2. To find the civil day corresponding to Chaitra śukla 1, or the first civil day of the luni-solar year; and the value of a (*place of mean moon*) *at mean sunrise thereon.*

The civil day corresponding to mean Chaitra *śukla* 1 is that on which the mean *tithi* "*śukla* 1" expired. The *tithi*-index (a=) 333·3̇ marks the last instant of the first *śukla tithi*, so that we have to find a day on which at mean sunrise the *tithi*-index a was between 0 and 333·3̇. The *amānta* lunar month called "Chaitra" begins with the first new moon after the Mīna-*saṁkrānti*, and the civil day called "Chaitra *śukla* 1" is necessarily earlier than the day on which mean Mēsha-*saṁkrānti* occurred. We have to find the number of days' interval between these two days. There are two ways of ascertaining these points, one by using Table XCIII and adding its figures, one by using Table LIVA and subtracting its figures.

(i) Take the year in Example 1, A, above. The value of a at mean sunrise of Sunday, 22 March A.D. 750, was found to be 3137·0004. We turn to Table XCIII and select in col. 3 such a value of a as, added to 3137·0004, will result in a total value of a between 0 and 333·3̇. This is found to be 6952·3121, the sum of the two (always disregarding quantities over 10,000) being 89·3125. The interval of whole days from mean Mēsha-*saṁkrānti* day was 9 (*col. 1*). Adding the number of the week-day (*col. 2*), viz. 5, to the week-day of mean Mēsha-*saṁkrānti*, viz. 1 Sunday, we have the week-day 6 Friday. Mean Mēsha-*saṁkrānti* occurred on Sunday, 22 March; and, therefore, it has been determined that the day Chaitra *śukla* 1, the first day of the luni-solar year, was Friday, 13 March A.D. 750, on which day, a being 89·3125, Chaitra *śukla* 1 was the current *tithi* at mean sunrise.

Similarly in Example 1, B. At mean sunrise of (5) Thursday, 21 March A.D. 748, a was 5597·0190. Add (Table XCIII, *col. 3*) 4581·8882. Result 178·9072. The interval of days was

(*col. 1*) 16. The week-day number was 5. The week-day of 21 March was 5 (Thursday). Hence the week-day 16 days earlier was 5+5=3 Tuesday. So the beginning of the mean luni-solar year was on Tuesday, 5 March A.D. 748, on which date at mean sunrise the mean *tithi* "*śukla* 1" was current, the value of *a* at that moment being 178·9072.

The entries in Table XC against these years correspond to these results.

(ii) The same results are obtained by using Table LIVA (*above*, Vol. XV) and deducting the figures for the interval of whole days between the two occurrences. We note that value of *a* in the first 30 days of that Table which is next lower than the value of *a* already found for the day of mean Mēsha-*saṁkrānti*, and deduct the former from the latter. The number of intervening days (*col. 1*) and the number of week-days (*col. 2*) stand against the selected entry. This week-day number is deducted, of course, from the week-day of mean Mēsha-*saṁkrānti*. Thus—

	w.-d.	*a.*
A. For K.Y. 3851, A.D. 750.		
(*Example 1, A.*) For mean sunrise on Sunday, 22 March A.D. 750.	(1)	3137·0004
(*Table LIV A.*) Next lower value of *a*, and week-day	—(2)	—3047·6879
At mean sunrise of the day Chaitra *śukla* 1 . . .	(6)	89·3125

The interval of days (*col. 1*) was nine. 6=Friday. Hence the day corresponding to Chaitra *śukla* 1 was Friday, 13 March, and at mean sunrise the mean *tithi* Chaitra *śukla* 1 was current, the value of *a* being 89·3125.

B. For K.Y. 3849, A.D. 748.		
(*Example 1, B.*) At mean sunrise on Thursday, 21 March, A.D. 748.	(5)	5597·0190
(*Table LIV A.*) Next lower value of *a*, and week-day	—(2)	—5418·1118
At mean sunrise of the day Chaitra *śukla* 1 . . .	(3)	178·9072

The interval of days was 16. 3=Tuesday. Hence the day corresponding to Chaitra *śukla* 1 was Tuesday, 5 March A.D. 748, and at mean sunrise the value of *a* was 178·9072.

These results are the same as those found by the former process. The examples enable any worker to prove the correctness of all my entries in cols. 19-23 of the general Table XC below.

Example 3. To find if a lunar month was or was not intercalated in the given year.

It will be enough, for this problem, to refer to Example 3 (*above, Vol. XVI*) of my article on the *Ārya-Siddhānta—mean system*. The work here is precisely similar; but for the values of *a* for hours and minutes Table LIVB (*Vol. XV above*) should be used, and Table XCI for the advance of *a* during the mean solar months, etc.

Example 4. To find the mean tithi-index a, *shewing phase of moon, at mean sunrise of any day in the year; or at any moment of any day.*

Table XC (cols. 19-23) gives the civil day corresponding to mean Chaitra *śukla* 1 (the initial day of the mean luni-solar year), its serial number (in brackets) from January 1st of the equivalent A.D. year, and the mean *tithi*-index *a* at mean sunrise. Calculate by Table III, *Indian Calendar*, or by Table LXIIIA (*above*, Vol. XVI) the interval of whole days from that day to the given day, and, if necessary, the excess of hours, minutes, etc., to the given moment on that day. Add the increment of *a* for the interval of whole days from Table LIVA and for fractions of days from Table LIVB to the *a*, as above, of the initial day; as also the number of days' interval and the corresponding week-day.

E.g. Required the *tithi*-index at mean sunrise of the day called "Āshāḍha *śukla* 4" in Saka 547 expired, or A.D. 625-26, and the corresponding A.D. day and week-day.

In this year there was no intercalated month. The interval from the day "Chaitra *śukla* 1" to the day "Āshāḍha *śukla* 4" is approximately (Table LXIII-A above, p. 335) 93 days. We try this—

	d.	*w.-d.*	*a*
Table XC. Chaitra *śukla* 1, mean sunrise . .	(74)	(6)	184·6506
Table LIVA for 93 days	+(93)	(2)	1492·7746
	(167)	(1)	1677·4252
This value of "*a*" (*Table LXVIII*) shews that the 6th *śukla tithi* was current at mean sunrise. ∴ Deduct for 2 days . . .	−(2)	−(2)	−677·2640
At mean sunrise on Āshāḍha *śukla* 4 . . .	(165)	(6)	1000·1612

Table LXVIII or VIII *Indian Calendar*, shews the currency of the 4th *śukla tithi*, at that mean sunrise, since its first point is when $a=1{,}000$. Day 165 was (*Table IX, Indian Calendar, or LXIX, above*) 14th June A.D. 625. 6=Friday. We learn, however, that the 4th mean *tithi* had begun only about $\frac{1}{4}$ of a minute before the moment of mean sunrise; so that if the basis of calculation had been the moment of true sunrise (a little earlier than mean sunrise) the corresponding day might have been Thursday, 13 June.

Example 5. To find the nakshatra, or place in the heavens of the mean moon, at mean sunrise of any day or of any later moment in the day.

Take the case in the last example. It is required to find the value of "*n*", the *nakshatra*-index, at mean sunrise of the day called, in the mean system, "Āshāḍha *śukla* 4" in the given year, A.D. 625.

The mean *tithi*-index, "*a*", at that mean sunrise was found to be 1000·1612. Since $s+a=n$ (§ *327 above*), we have to ascertain the value of "*s*", the sun's mean longitude at that moment.

The day, 14 June, was the 165th day after Jan. 1 in that year. Mean Mēsha-*saṁkrānti* had taken place on (Table XC, *cols. 13-17*) the 79th day at $22^h\ 30^m\ 54^s$ after mean sunrise. The day 14 June was (165−79) 86 days later. We proceed as follows:—

		s.
Table LXXX, *p. 444*. Interval of 86 days		2354·4957
Less (Table LXXXI) for 22^h	25·0964	
30^m	0·5704	
54^s	0·0171	
	25·6839	−25·6839
At mean sunrise on the day Āshāḍha *śukla* 4 sun's mean long., "*s*" =		2328·8118
Add "*a*" as already found for that moment		1000·1612
At mean sunrise on that day "*n*" = ...		3328·9730

This last is the required *nakshatra*-index. Reference to Table VIII, *Indian Calendar*, or Table LXVIII (*above* Vol. XVI) shews that the moon was then in the *nakshatra* Aślēshā by the

equal-space system of division of the ecliptic, which ended when "n" = 3333·3̇; but that by the system of Garga or the *Brahma-Siddhānta* (our present authority) she was in Maghā, of which the ending points are respectively 3518·5 and 3477·1. Converted into degrees (Table VIII-B, *Indian Calendar*, or Table XLV-B, *above*) the moon at that mean sunrise stood at about 119°51′.

For the value of "n" at any later hour of the given day the index-value for the time since mean sunrise must be added (Table LXXXI) to the "n" of mean sunrise. At about 3 hours 50 min. after mean sunrise, for instance, the mean moon entered Maghā by the equal-space system; for the beginning point of that *nakshatra* is 3333·3̇. The increase of "n" in 3 hours 50 min. is 4·3728, and 3328·9730 + 4·3728 = 3333·3458.

Example 6. To find the yōga, "y", at the same moment as in Example 5.

The formula for finding the *yōga*-index is either $s + n =$ "y", the *yōga*-index; or, in cases where it is not necessary to calculate n (the *nakshatra*), 2 "s" $+ a =$ "y". Here, at mean sunrise on 14 June A.D. 625, we have found "s" = 2328·8118 and "n" = 3328·9730. The *yōga*-index, "y", therefore, = 5657·7848; and reference to Table VIII, *Indian Calendar*, cols. 12-13, or Table LXVIII (*above*, *Vol. XVI*, *cols. 6, 8, 9, 10*), shews that the mean moon was at that moment in the *yōga* Siddhi. Again $2s$ = 4657·6236, and this + "a," which was found to be 1000·1612 = 5657·7848, the same as before.

TABLE XC.

Remarks.

K.Y. 3736 expired, A.D 635-36. A very close case in the matter of intercalation of lunar month. Mean new moon occurred about 2^m after the moment of the Karka-*saṁkrānti* (mean sun at long. 90°), and, therefore, at that moment the mean moon was waning, while she was waxing at the next, Siṁha-*saṁkrānti* (mean sun at 120°). Accordingly the intercalated month was Śrāvaṇa.

K.Y. 3923 expired, A D 822-23. According to the 19-year sequence of intercalations the same month is generally intercalated four times running, i.e. at intervals of 19 years each. Here, however, is an instance of a fifth intercalation of the same month. [See § 329 of text above.]

K Y. 4110 expired, A.D. 1009-10. A similar case. Āśvina intercalated for the fifth time.

K Y. 4297 expired, A.D. 1196-97. Another. Kārttika intercalated for the fifth time.

K.Y. 4408 expired, A.D. 1307-08. Another. Pausha intercalated for the fifth time. This was a very close case. The moment of mean new moon was about 1 minute after the mean sun reached the Dhanus-*saṁkrānti* (mean sun at long. 240°), but she was actually waning at the moment of the *saṁkrānti* and was waxing at the next, Makara, *saṁkrānti*. Consequently the lunar month Pausha was intercalated

TABLE

Mean System Table,

Numbers of columns conform

(*Cols. 1 to 4.*)—The years herein stated are the *current* years corresponding

(*Cols. 6 and 7.*)—*Saṁvatsara-names of mean solar years in italics shew cases*

CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
3701	522	657	6		599-600	50 Anala		...
3702	523	658	7		*600-01	51 Piṅgala		2 Vaiśākha
3703	524	659	8		601-02	52 Kālayukta		...
3704	525	660	9		602-03	53 Siddhārthin		10 Pausha
3705	526	661	10		603-04	54 Raudra		...
3706	527	662	11		*604-05	55 Durmati		...
3707	528	663	12		605-06	56 Dundubhi		7 Āśvina
3708	529	664	13		606-07	57 Rudhirōdgārin		...
3709	530	665	14		607-08	58 Raktāksha		...
3710	531	666	15		*608-09	59 Krōdhana		3 Jyēshtha
3711	532	667	16		609-10	60 Kshaya		...
3712	533	668	17		610-11	1 Prabhava		12 Phālguna
3713	534	669	18		611-12	2 Vibhava		...
3714	535	670	19		*612-13	3 Śukla		...
3715	536	671	20		613-14	4 Pramōda		8 Kārttika
3716	537	672	21		614-15	5 Prajāpati		...
3717	538	673	22		615-16	6 Aṅgiras		...
3718	539	674	23		*616-17	7 Śrīmukha		5 Śrāvaṇa
3719	540	675	24		617-18	8 Bhāva		...
3720	541	676	25		618-19	9 Yuvan		...

XC.

BRAHMA-SIDDHĀNTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

where differences exist from Sūrya-Siddhānta nomenclature in true solar years.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*)	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80)	0 Sat.	5 15 0	3 Mar. (62)	3 Tues.	133·1013	3701
20 Mar. (80)	1 Sun.	11 27 9	20 Feb. (51)	0 Sat.	8·8241	3702
20 Mar. (79)	2 Mon.	17 39 18	10 Mar. (69)	6 Fri.	43·5065	3703
20 Mar. (79)	3 Tues.	23 51 27	28 Feb. (59)	4 Wed.	257·8614	3704
21 Mar. (80)	5 Thur	6 3 36	19 Mar. (78)	3 Tues.	292·5437	3705
20 Mar. (80)	6 Fri.	12 15 45	7 Mar. (67)	0 Sat.	168·2666	3706
20 Mar. (79)	0 Sat.	18 27 54	24 Feb. (55)	4 Wed.	43·3394	3707
21 Mar. (80)	2 Mon.	0 40 3	15 Mar. (74)	3 Tues.	78·6718	3708
21 Mar. (80)	3 Tues.	6 52 12	5 Mar. (64)	1 Sun.	293·0266	3709
20 Mar. (80)	4 Wed.	13 4 21	22 Feb. (53)	5 Thur.	168·7494	3710
20 Mar. (79)	5 Thur.	19 16 30	12 Mar. (71)	4 Wed.	203·4218	3711
21 Mar (80)	0 Sat.	1 28 39	1 Mar. (60)	1 Sun.	79·1547	3712
21 Mar. (80)	1 Sun.	7 40 48	20 Mar. (79)	0 Sat.	113·8371	3713
20 Mar. (80)	2 Mon.	13 52 57	9 Mar. (69)	5 Thur.	328·1918	3714
20 Mar. (79)	3 Tues.	20 5 6	26 Feb. (57)	2 Mon.	203·9147	3715
21 Mar. (80)	5 Thur.	2 17 15	17 Mar. (76)	1 Sun.	238·5972	3716
21 Mar. (80)	6 Fri.	8 29 24	6 Mar. (65)	5 Thur.	114·3199	3717
20 Mar. (80)	0 Sat.	14 41 33	24 Feb. (55)	3 Tues.	328·6747	3718
20 Mar. (79)	1 Sun.	20 53 42	13 Mar. (72)	1 Sun.	24·7252	3719
21 Mar. (80)	3 Tues.	3 5 51	3 Mar. (62)	6 Fri.	239·0801	3720

TABLE

CONCURRENT YEAR.								
Kali.	Śaka	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	Jovian Samvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
3721	542	677	26		619-20	10 Dhatṛi		1 Chaitra
3722	543	678	27		*620-21	11 Īśvara		...
3723	544	679	28		621 22	12 Bahudhānya		10 Pausha
3724	545	680	29		622 23	13 Pramāthin		...
3725	546	681	30		623-24	14 Vikrama		...
3726	547	682	31		*624-25	15 Vṛisha		6 Bhādrapada
3727	548	683	32		625-26	16 Chitrabhānu		
3728	549	684	33		626-27	17 Subhānu		
3729	550	685	34		627-28	18 Tārana		3 Jyēshṭha
3730	551	686	35		*628-29	19 Pārthiva		...
3731	552	687	36		629-30	20 Vyaya		11 Māgha
3732	553	688	37		630-31	21 Sarvajit		...
3733	554	689	38		631-32	22 Sarvadhārin		...
3734	555	690	39		*632-33	23 Virōdhin		8 Kārttika
3735	556	691	40		633-34	24 Vikṛita		...
3736	557	692	41		634 35	25 Khara		...
3737	558	693	42		635-36	26 Nandana		5 Śrāvaṇa §
3738	559	694	43		*636-37	27 Vijaya		...
3739	560	695	44		637-38	28 Jaya		...
3740	561	696	45		638 39	29 Manmatha		1 Chaitra
3741	562	697	46		639-40	30 Durmukha		...
3742	563	698	47		*640-41	31 Hēmalamba		10 Pausha
3743	564	699	48		641-42	32 Vilamba		...
3744	565	700	49		642-43	33 Vikārin		...
3745	566	701	50		643-44	34 Śārvarin		6 Bhādrapada

§ See "Remarks," p. 215 above

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	α (here $=t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80)	4 Wed.	9 18 0	20 Feb. (51)	3 Tues.	114·8028	3721
20 Mar. (80)	5 Thur.	15 30 9	10 Mar. (70)	2 Mon.	149·4852	3722
20 Mar. (79)	6 Fri.	21 42 18	27 Feb. (58)	6 Fri.	25·2081	3723
21 Mar. (80)	1 Sun.	3 54 27	18 Mar. (77)	5 Thur.	59·8904	3724
21 Mar. (80)	2 Mon.	10 6 36	8 Mar. (67)	3 Tues.	274·2453	3725
20 Mar. (80)	3 Tues.	16 18 45	25 Feb. (56)	0 Sat.	149·9682	3726
20 Mar. (79)	4 Wed.	22 30 54	15 Mar. (74)	6 Fri.	184·6506	3727
21 Mar. (80)	6 Fri.	4 43 3	4 Mar. (63)	3 Tues.	60·3734	3728
21 Mar. (80)	0 Sat.	10 55 12	22 Feb. (53)	1 Sun.	274·7282	3729
20 Mar. (80)	1 Sun.	17 7 21	12 Mar. (72)	0 Sat.	309·4106	3730
20 Mar. (79)	2 Mon.	23 19 30	1 Mar. (60)	4 Wed.	185·1334	3731
21 Mar. (80)	4 Wed.	5 31 39	20 Mar. (79)	3 Tues.	219·8158	3732
21 Mar. (80)	5 Thur.	11 43 48	9 Mar. (68)	0 Sat.	95·5387	3733
20 Mar. (80)	6 Fri.	17 55 57	27 Feb. (58)	5 Thur.	309·8935	3734
21 Mar. (80)	1 Sun.	0 8 6	16 Mar. (75)	3 Tues.	5·9439	3735
21 Mar. (80)	2 Mon.	6 20 15	6 Mar. (65)	1 Sun.	220·2987	3736
21 Mar. (80)	3 Tues.	12 32 24	23 Feb. (54)	5 Thur.	96·0216	3737
20 Mar. (80)	4 Wed.	18 44 33	13 Mar. (73)	4 Wed.	130·7040	3738
21 Mar. (80)	6 Fri.	0 56 42	2 Mar. (61)	1 Sun.	6·4268	3739
21 Mar. (80)	0 Sat.	7 8 51	20 Feb. (51)	6 Fri.	220·7816	3740
21 Mar. (80)	1 Sun.	13 21 0	11 Mar. (70)	5 Thur.	255·4640	3741
20 Mar. (80)	2 Mon.	19 33 9	28 Feb. (59)	2 Mon.	131·1868	3742
21 Mar. (80)	4 Wed.	1 45 18	18 Mar. (77)	1 Sun.	165·8692	3743
21 Mar. (80)	5 Thur.	7 57 27	7 Mar. (66)	5 Thur.	41·5921	3744
21 Mar. (80)	6 Fri.	14 9 36	25 Feb. (56)	3 Tues.	255·9470	3745

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
3746	567	702	51		*644-45	35 Plava		...
3747	568	703	52		645-46	36 Śubhakṛit		...
3748	569	704	53		646-47	37 Śōbhana		3 Jyēshtha
3749	570	705	54		647-48	38 Krōdhin		...
3750	571	706	55		*648-49	39 Viśvāvasu †		11 Māgha
3751	572	707	56		649-50	41 *Plavaṅga*		...
3752	573	708	57		650 51	42 *Kīlaka*		...
3753	574	709	58		651-52	43 *Saumya*		8 Kārttika
3754	575	710	59		*652-53	44 *Sādhāraṇa*		...
3755	576	711	60		653-54	45 *Virōdhakṛit*		...
3756	577	712	61		654-55	46 Paridhāvin		4 Āshādha
3757	578	713	62		655-56	47 Pramādin		...
3758	579	714	63		*656-57	48 Ānanda		...
3759	580	715	64		657-58	49 Rākshasa		1 Chaitra
3760	581	716	65		658 59	50 Anala		...
3761	582	717	66		659 60	51 Piṅgala		9 Mārgaśira
3762	583	718	67		*660-61	52 Kālayukta		...
3763	584	719	68		661-62	53 Siddhārthin		...
3764	585	720	69		662-63	54 Raudra		6 Bhādrapada
3765	586	721	70		663-64	55 Durmati		...
3766	587	722	71		*664-65	56 Dundubhi		...
3767	588	723	72		665-66	57 Rudhirōdgārin		2 Vaiśākha
3768	589	724	73		666-67	58 Raktākṣha		...
3769	590	725	74		667-68	59 Krōdhana		11 Māgha
3770	591	726	75		*668-69	60 Kshaya		...

† 40 Parābhava was suppressed, both in mean and true reckoning.

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
20 Mar. (80)	0 Sat.	20 21 45	15 Mar. (75)	2 Mon.	290·3293	3746
21 Mar. (80)	2 Mon.	2 33 54	4 Mar. (68)	6 Fri.	166·3522	3747
21 Mar. (80)	3 Tues.	8 46 3	21 Feb. (52)	3 Tues.	42·0750	3748
21 Mar. (80)	4 Wed.	14 58 12	12 Mar. (71)	2 Mon.	76·7573	3749
20 Mar. (80)	5 Thur.	21 10 21	1 Mar. (61)	0 Sat.	291·1122	3750
21 Mar. (80)	0 Sat.	3 22 30	20 Mar. (79)	6 Fri.	325·7946	3751
21 Mar. (80)	1 Sun.	9 34 39	9 Mar. (68)	3 Tues.	201·5175	3752
21 Mar. (80)	2 Mon.	15 46 48	26 Feb. (57)	0 Sat.	77·2402	3753
20 Mar. (80)	3 Tues.	21 58 57	16 Mar. (76)	0 Sat.	111·9227	3754
21 Mar. (80)	5 Thur.	4 11 6	6 Mar. (65)	4 Wed.	326·2775	3755
21 Mar. (80)	6 Fri.	10 23 15	23 Feb. (54)	1 Sun.	202·0003	3756
21 Mar. (80)	0 Sat.	16 35 24	14 Mar. (73)	0 Sat.	236·6827	3757
20 Mar. (80)	1 Sun.	22 47 33	2 Mar. (62)	4 Wed.	112·4656	3758
21 Mar. (80)	3 Tues.	4 59 42	20 Feb. (51)	2 Mon.	326·7604	3759
21 Mar. (80)	4 Wed.	11 11 51	10 Mar. (69)	0 Sat.	22·8108	3760
21 Mar. (80)	5 Thur.	17 24 0	28 Feb. (59)	5 Thur.	237·1656	3761
20 Mar. (80)	6 Fri.	23 36 9	18 Mar. (78)	4 Wed.	271·8490	3762
21 Mar. (80)	1 Sun.	5 48 18	7 Mar. (66)	1 Sun.	147·5708	3763
21 Mar. (80)	2 Mon.	12 0 27	24 Feb. (55)	5 Thur.	23·2037	3764
21 Mar. (80)	3 Tues.	18 12 36	15 Mar. (74)	4 Wed.	57·9761	3765
21 Mar. (81)	5 Thur.	0 24 45	4 Mar. (64)	2 Mon.	272·3310	3766
21 Mar. (80)	6 Fri.	6 36 54	21 Feb. (52)	6 Fri.	118·0537	3767
21 Mar. (80)	0 Sat.	12 49 3	12 Mar. (71)	5 Thur.	182·7361	3768
21 Mar. (80)	1 Sun.	19 1 12	1 Mar. (60)	2 Mon.	58·4590	3769
21 Mar. (81)	3 Tues.	1 13 21	19 Mar. (79)	1 Sun.	93·1413	3770

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3771	592	727	76		669-70	1 Prabhava . . .		...
3772	593	728	77		670-71	2 Vibhava . . .		7 Āśvina .
3773	594	729	78		671-72	3 Sukla . . .		...
3774	595	730	79		*672-73	4 Pramōda . . .		...
3775	596	731	80		673-74	5 Prajāpati . . .		4 Āshādha .
3776	597	732	81		674-75	6 Aṅgiras . . .		...
3777	598	733	82		675-76	7 Śrīmukha . . .		...
3778	599	734	83		*676-77	8 Bhāva . . .		1 Chaitra .
3779	600	735	84		677-78	9 Yuvan . . .		...
3780	601	736	85		678-79	10 Dhātṛi . . .		9 Mārgaśira .
3781	602	737	86		679-80	11 Īśvara . . .		...
3782	603	738	87		*680-81	12 Bahudhānya . .		...
3783	604	739	88		681-82	13 Pramāthin . . .		6 Bhādrapada .
3784	605	740	89		682-83	14 Vikrama . . .		...
3785	606	741	90		683-84	15 Vṛisha . . .		...
3786	607	742	91		*684-85	16 Chitrabhānu . .		2 Vaiśākha .
3787	608	743	92		685-86	17 Subhānu . . .		...
3788	609	744	93		686-87	18 Tāraṇa . . .		11 Māgha .
3789	610	745	94		687-88	19 Pārthiva . . .		...
3790	611	746	95		*688-89	20 Vyaya . . .		..
3791	612	747	96		689-90	21 Sarvajit . . .		7 Āśvina .
3792	613	748	97		690-91	22 Sarvadhārin . .		...
3793	614	749	98		691-92	23 Virōdhin . . .		...
3794	615	750	99		*692-93	24 Vikṛita . . .		4 Āshāḍha .
3795	616	751	100		693-94	25 Khara . . .		...

KÚ—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	q (here $= t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80)	4 Wed.	7 23 30	9 Mar. (68)	6 Fri.	307·4962	3771
21 Mar. (80)	5 Thur.	13 37 39	26 Feb. (57)	3 Tues.	183·2190	3772
21 Mar. (80)	6 Fri.	19 49 48	17 Mar. (76)	2 Mon.	217·9015	3773
21 Mar. (81)	1 Sun.	2 1 57	5 Mar. (65)	6 Fri.	93·6242	3774
21 Mar. (80)	2 Mon.	8 14 6	23 Feb. (54)	4 Wed.	307·9791	3775
21 Mar. (80)	3 Tues.	14 26 15	13 Mar. (72)	2 Mon.	4·0295	3776
21 Mar. (80)	4 Wed.	20 38 24	3 Mar. (62)	0 Sat.	218·3843	3777
21 Mar. (81)	6 Fri.	2 50 33	20 Feb. (51)	4 Wed.	94·1071	3778
21 Mar. (80)	0 Sat.	9 2 42	10 Mar. (69)	3 Tues.	128·7896	3779
21 Mar. (80)	1 Sun.	15 14 51	27 Feb. (58)	0 Sat.	4·5124	3780
21 Mar. (80)	2 Mon.	21 27 0	18 Mar. (77)	6 Fri.	89·1947	3781
21 Mar. (81)	4 Wed.	3 39 9	7 Mar. (67)	4 Wed.	253·5496	3782
21 Mar. (80)	5 Thur.	9 51 18	24 Feb. (55)	1 Sun.	129·2725	3783
21 Mar. (80)	6 Fri.	16 3 27	15 Mar. (74)	0 Sat.	163·9549	3784
21 Mar. (80)	0 Sat.	22 15 36	4 Mar. (63)	4 Wed.	39·6776	3785
21 Mar. (81)	2 Mon.	4 27 45	22 Feb. (53)	2 Mon.	254·0325	3786
21 Mar. (80)	3 Tues.	10 39 54	12 Mar. (71)	1 Sun.	288·7149	3787
21 Mar. (80)	4 Wed.	16 52 3	1 Mar. (60)	5 Thur.	164·4377	3788
21 Mar. (80)	5 Thur.	23 4 12	20 Mar. (79)	4 Wed.	199·1200	3789
21 Mar. (81)	0 Sat.	5 16 21	8 Mar. (68)	1 Sun.	74·8430	3790
21 Mar. (80)	1 Sun.	11 28 30	26 Feb. (57)	6 Fri.	289·1978	3791
21 Mar. (80)	2 Mon.	17 40 39	17 Mar. (76)	5 Thur.	323·8802	3792
21 Mar. (80)	3 Tues.	23 52 48	6 Mar. (65)	2 Mon.	199·6030	3793
21 Mar. (81)	5 Thur.	6 4 57	23 Feb. (54)	6 Fri.	75·3259	3794
21 Mar. (80)	6 Fri.	12 17 6	13 Mar. (72)	5 Thur.	110·0082	3795

TABLE

CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3796	617	752	101		694-95	26 Nandana		12 Phālguna
3797	618	753	102		695-96	27 Vijaya		...
3798	619	754	103		*696-97	28 Jaya		...
3799	620	755	104		697-98	29 Manmatha		9 Mārgaśira
3800	621	756	105		698-99	30 Durmukha		...
3801	622	757	106		699-700	31 Hēmalamba		...
3802	623	758	107		*700-01	32 Vilamba		5 Śrāvaṇa
3803	624	759	108		701-02	33 Vikārin		...
3804	625	760	109		702-03	34 Śārvarin		...
3805	626	761	110		703-04	35 Plava		2 Vaiśākha
3806	627	762	111		*704-05	36 Śubhakṛit		...
3807	628	763	112		705-06	37 Śōbhana		10 Pausha
3808	629	764	113		706-07	38 Krōdhin		...
3809	630	765	114		707-08	39 Viśvāvasu		...
3810	631	766	115		*708-09	40 Parābhava		7 Aśvina
3811	632	767	116		709-10	41 Plavaṅga		...
3812	633	768	117		710-11	42 Kīlaka		...
3813	634	769	118		711-12	43 Saumya		4 Ashāḍha
3814	635	770	119		*712-13	44 Sādhāraṇa		...
3815	636	771	120		713-14	45 Virōdhakṛit		12 Phālguna
3816	637	772	121		714-15	46 Paridhāvin		...
3817	638	773	122		715-16	47 Pramādin		...
3818	639	774	123		*716-17	48 Ānanda		9 Mārgaśira
3819	640	775	124		717-18	49 Rākshasa		...
3820	641	776	125		718-19	50 Anala		...

XC—*contd.*

COMMENCEMENT OF THE										
MEAN SOLAR YEAR.					MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.			Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).		
13	14	17			19	20	23		1
		H.	M.	S.					
21 Mar. (80)	0 Sat.	18	29	15	3 Mar. (62)	3 Tues.	324·3631		3796
22 Mar. (81)	2 Mon.	0	41	24	21 Mar. (80)	1 Sun.	20·4135		3797
21 Mar. (81)	3 Tues.	6	53	33	10 Mar. (70)	6 Fri.	234·7683		3798
21 Mar. (80)	4 Wed.	13	5	42	27 Feb. (58)	3 Tues.	110·4911		3799
21 Mar. (80)	5 Thur.	19	17	51	18 Mar. (77)	2 Mon.	145·1735		3800
22 Mar. (81)	0 Sat.	1	30	0	7 Mar. (66)	6 Fri.	20·8963		3801
21 Mar. (81)	1 Sun.	7	42	9	25 Feb. (56)	4 Wed.	235·2512		3802
21 Mar. (80)	2 Mon.	13	54	18	15 Mar. (74)	3 Tues.	269·9336		3803
21 Mar. (80)	3 Tues.	20	6	27	4 Mar. (63)	0 Sat.	145·6564		3804
22 Mar. (81)	5 Thur.	2	18	36	21 Feb. (52)	4 Wed.	21·3792		3805
21 Mar. (81)	6 Fri.	8	30	45	11 Mar. (71)	3 Tues.	56·0616		3806
21 Mar. (80)	0 Sat.	14	42	54	1 Mar. (60)	1 Sun.	270·4164		3807
21 Mar. (80)	1 Sun.	20	55	3	20 Mar. (79)	0 Sat.	305·0988		3808
22 Mar. (81)	3 Tues.	3	7	12	9 Mar. (68)	4 Wed.	180·8217		3809
21 Mar. (81)	4 Wed.	9	19	21	26 Feb. (57)	1 Sun.	56·5444		3810
21 Mar. (80)	5 Thur.	15	31	30	16 Mar. (75)	0 Sat.	91·2269		3811
21 Mar. (80)	6 Fri.	21	43	39	6 Mar. (65)	5 Thur.	305·5817		3812
22 Mar. (81)	1 Sun.	3	55	48	23 Feb. (54)	2 Mon.	181·3046		3813
21 Mar. (81)	2 Mon.	10	7	57	13 Mar. (73)	1 Sun.	215·9869		3814
21 Mar. (80)	3 Tues.	16	20	6	2 Mar. (61)	5 Thur.	91·7098		3815
21 Mar. (80)	4 Wed.	22	32	15	21 Mar. (80)	4 Wed.	126·3922		3816
22 Mar. (81)	6 Fri.	4	44	24	10 Mar. (69)	1 Sun.	2·1150		3817
21 Mar. (81)	0 Sat.	10	56	33	28 Feb. (59)	6 Fri.	216·4698		3818
21 Mar. (80)	1 Sun.	17	8	42	18 Mar. (77)	5 Thur.	251·1632		3819
21 Mar. (80)	2 Mon.	23	20	51	Mar. (66)	2 Mon.	126·8751		3820

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi, solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara. Southern system.	Jovian Saṁvatsara. Northern system.	Mean intercalated (*adhika*) lunar month.
1	2	3	3a	4	5	6	7	8a
3821	642	777	126		719 20	51 Piṅgala		5 Śrāvana
3822	643	778	127		*720-21	52 Kālayukta		...
3823	644	779	128		721-22	53 Siddhārthin		...
3824	645	780	129		722-23	54 Raudra		2 Vaiśākha
3825	646	781	130		723-24	55 Durmati		..
3826	647	782	131		*724-25	56 Dundubhi		10 Pausha
3827	648	783	132		725-26	57 Rudhirōdgārin		...
3828	649	784	133		726-27	58 Raktākṣha		...
3829	650	785	134		727-28	59 Krōdhana		7 Āsvina
3830	651	786	135		*728-29	60 Kshaya		...
3831	652	787	136		729-30	1 Prabhava		..
3832	653	788	137		730-31	2 Vibhava		3 Jyēshṭha
3833	654	789	138		731-32	3 Śukla		...
3834	655	790	139		*732-33	4 Pramōda		12 Phālguna
3835	656	791	140		733-34	5 Prajāpati†		...
3836	657	792	141		734-35	7 *Śrīmukha*		...
3837	658	793	142		735-36	8 *Bhāva*		8 Kārttika
3838	659	794	143		*736-37	9 *Yuvan*		...
3839	660	795	144		737-38	10 *Dhātṛ*		...
3840	661	796	145		738-39	11 *Īśvara*		5 Śrāvana
3841	662	797	146		739-40	12 Bahudhānya		...
3842	663	798	147		*740-41	13 Pramāthin		...
3843	664	799	148		741-42	14 Vikrama		1 Chaitra
3844	665	800	149		742-43	15 Vrisha		...
3845	666	801	150		743-44	16 Chitrabhānu		10 Pausha

† No. 6 Aṅgiras was suppressed according to the mean system By the *Brahma-Siddhānta* "true" system K.Y. 3836 A.D. 734-735, was called Aṅgiras, 7 Śrīmukha being suppressed. K.Y. 3837, A.D. 735-36, was 8 Bhāva by both systems.

XC—*contd.*

COMMENCEMENT OF THE												Kali.
MEAN SOLAR YEAR.						MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).						
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.				Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).				
13	14	17				19	20	23				1
		H.	M.	S.								
22 Mar. (81)	4 Wed.	5	33	0		24 Feb. (55)	6 Fri.	2 5979				3821
21 Mar. (81)	5 Thur.	11	45	9		14 Mar. (74)	5 Thur.	37·2803				3822
21 Mar. (80)	6 Fri.	17	57	18		4 Mar. (63)	3 Tues.	251·6352				3823
22 Mar. (81)	1 Sun.	0	9	27		21 Feb. (52)	0 Sat.	127·3579				3824
22 Mar. (81)	2 Mon.	6	21	36		12 Mar (71)	6 Fri.	162·0403				3825
21 Mar. (81)	3 Tues.	12	33	45		29 Feb. (60)	3 Tues.	37·7632				3826
21 Mar. (80)	4 Wed.	18	45	54		19 Mar. (78)	2 Mon.	72·4457				3827
22 Mar. (81)	6 Fri.	0	58	3		9 Mar. (68)	0 Sat.	286 8004				3828
22 Mar. (81)	0 Sat.	7	10	12		26 Feb. (57)	4 Wed.	162·5233				3829
21 Mar. (81)	1 Sun.	13	22	21		16 Mar. (76)	3 Tues.	197·2057				3830
21 Mar. (80)	2 Mon.	19	34	30		5 Mar. (64)	0 Sat	72·9284				3831
22 Mar. (81)	4 Wed.	1	46	39		23 Feb. (54)	5 Thur.	287 2833				3832
22 Mar. (81)	5 Thur.	7	58	48		14 Mar. (73)	4 Wed.	321·9657				3833
21 Mar. (81)	6 Fri.	14	10	57		2 Mar. (62)	1 Sun.	197·6886				3834
21 Mar. (80)	0 Sat.	20	23	6		21 Mar. (80)	0 Sat.	232 3709				3835
22 Mar. (81)	2 Mon.	2	35	15		10 Mar. (69)	4 Wed.	108·0938				3836
22 Mar. (81)	3 Tues.	8	47	24		28 Feb. (59)	2 Mon.	322·4486				3837
21 Mar. (81)	4 Wed.	14	59	33		17 Mar. (77)	0 Sat.	18·4990				3838
21 Mar. (80)	5 Thur.	21	11	42		7 Mar. (66)	5 Thur.	232·8538				3839
22 Mar. (81)	0 Sat.	3	23	51		24 Feb. (55)	2 Mon.	108·5767				3840
22 Mar (81)	1 Sun.	9	36	0		15 Mar. (74)	1 Sun.	143·2591				3841
21 Mar. (81)	2 Mon.	15	48	9		3 Mar. (63)	5 Thur.	18·9819				3842
21 Mar. (80)	3 Tues.	22	0	18		21 Feb. (52)	3 Tues.	233·3367				3843
22 Mar. (81)	5 Thur.	4	12	27		12 Mar. (71)	2 Mon.	268·0191				3844
22 Mar. (81)	6 Fri.	10	24	36		1 Mar. (60)	6 Fri.	143·7420				3845

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3846	667	802	151		*744-45	17 Subhānu		...
3847	668	803	152		745-46	18 Tāraṇa		...
3848	669	804	153		746-47	19 Pārthiva		6 Bhādrapada
3849	670	805	154		747-48	20 Vyaya		...
3850	671	806	155		*748-49	21 Sarvajit		...
3851	672	807	156		749-50	22 Sarvadhārin		3 Jyēshṭha
3852	673	808	157		750-51	23 Virōdhin		...
3853	674	809	158		751-52	24 Vikṛita		12 Phālguna
3854	675	810	159		*752-53	25 Khara		...
3855	676	811	160		753-54	26 Nandana		..
3856	677	812	161		754-55	27 Vijaya		8 Kārttika
3857	678	813	162		755-56	28 Jaya		...
3858	679	814	163		*756-57	29 Manmatha		...
3859	680	815	164		757-58	30 Durmukha		5 Srāvaṇa
3860	681	816	165		758-59	31 Hēmalamba		...
3861	682	817	166		759-60	32 Vilamba		...
3862	683	818	167		*760-61	33 Vikārin		1 Chaitra
3863	684	819	168		761-62	34 Śārvarin		...
3864	685	820	169		762-63	35 Plava		10 Pausha
3865	686	821	170		763-64	36 Subhakṛit		...
3866	687	822	171		*764-65	37 Śōbhana		...
3867	688	823	172		765-66	38 Krōdhin		6 Bhādrapada
3868	689	824	173		766-67	39 Viśvāvasu		...
3869	690	825	174		767-68	40 Parābhava		...
3870	691	826	175		*768-69	41 Plavaṅga		3 Jyēshṭha

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (81) . .	0 Sat. .	16 36 45	19 Mar. (79) .	5 Thur. . .	178·4243	3846
21 Mar. (80) . .	1 Sun. .	22 48 54	8 Mar. (67) .	2 Mon. . .	54 1472	3847
22 Mar. (81) . .	3 Tues. .	5 1 3	26 Feb. (57) .	0 Sat. .	268·5021	3848
22 Mar. (81) . . .	4 Wed. .	11 13 12	17 Mar. (76) .	6 Fri. . .	303·1844	3849
21 Mar. (81) . .	5 Thur. .	17 25 21	5 Mar. (65) .	3 Tues. .	178·9072	3850
21 Mar. (80) . .	6 Fri. .	23 37 30	22 Feb. (53) .	0 Sat. .	54 6301	3851
22 Mar. (81) . .	1 Sun. .	5 49 39	13 Mar. (72) .	6 Fri. .	89 3125	3852
22 Mar. (81) . .	2 Mon. .	12 1 48	3 Mar. (62) .	4 Wed. .	303 6673	3853
21 Mar. (81) . .	3 Tues. .	18 13 57	20 Mar. (80) .	2 Mon. .	9999 71778	3854
22 Mar (81) . .	5 Thur. .	0 26 6	10 Mar. (69) .	0 Sat. .	214·0726	3855
22 Mar. (81) . .	6 Fri. .	6 38 15	27 Feb. (58) .	4 Wed. .	89·7953	3856
22 Mar. (81) . .	0 Sat. .	12 50 24	18 Mar. (77) .	3 Tues .	124·4778	3857
21 Mar. (81) . .	1 Sun. .	19 2 33	6 Mar. (66) .	0 Sat. .	0·2006	3858
22 Mar. (81) . .	3 Tues.	1 14 42	24 Feb. (55)	5 Thur. .	214·5555	3859
22 Mar. (81) . .	4 Wed. .	7 26 51	15 Mar. (74) .	4 Wed. .	249 2378	3860
22 Mar. (81) . .	5 Thur. .	13 39 0	4 Mar. (63) .	1 Sun. .	124 9607	3861
21 Mar (81) . .	6 Fri. .	19 51 9	21 Feb. (52) .	5 Thur. .	0 6835	3862
22 Mar. (81) . .	1 Sun. .	2 3 18	11 Mar. (70) .	4 Wed. .	35·3656	3863
22 Mar. (81) . .	2 Mon. .	8 15 27	1 Mar. (60) .	2 Mon. . .	249·7207	3864
22 Mar. (81) . .	3 Tues. .	14 27 36	20 Mar. (79) .	1 Sun. .	284·4031	3865
21 Mar. (81) . .	4 Wed. .	20 39 45	8 Mar. (68)	5 Thur. .	160·1261	3866
22 Mar. (81) . .	6 Fri. .	2 51 54	25 Feb. (56) .	2 Mon. .	35·8488	3867
22 Mar. (81) . .	0 Sat. .	9 4 3	16 Mar. (75) .	1 Sun. .	70·5312	3868
22 Mar. (81) . .	1 Sun. .	15 16 12	6 Mar. (65) .	6 Fri .	284·8860	3869
21 Mar. (81) . .	2 Mon. .	21 28 21	23 Feb. (54) .	3 Tues. .	160·6088	3870

§Chaitra *śukla* 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated (*adhika*) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara. Southern system	Jovian Saṁvatsara. Northern system.	
1	2	3	3a	4	5	6	7	8a
3871	692	827	176		769-70	42 Kīlaka		...
3872	693	828	177		770-71	43 Saumya		11 Māgha
3873	694	829	178		771-72	44 Sādhāraṇa		...
3874	695	830	179		*772-73	45 Virōdhakṛit		...
3875	696	831	180		773-74	46 Paridhāvin		8 Kārttika
3876	697	832	181		774-75	47 Pramādin		...
3877	698	833	182		775-76	48 Ānanda		...
3878	699	834	183		*776-77	49 Rākshasa		4 Āshāḍha
3879	700	835	184		777-78	50 Anala		...
3880	701	836	185		778-79	51 Piṅgala		...
3881	702	837	186		779-80	52 Kālayukta		1 Chaitra
3882	703	838	187		*780-81	53 Siddhārthin		...
3883	704	839	188		781-82	54 Raudra		9 Mārgaśīra
3884	705	840	189		782-83	55 Durmati		...
3885	706	841	190		783-84	56 Dundubhi		...
3886	707	842	191		*784-85	57 Rudhirōdgārin		6 Bhādrapada
3887	708	843	192		785-86	58 Raktākṣha		...
3888	709	844	193		786-87	59 Krōdhana		...
3889	710	845	194		787-88	60 Kṣhaya		3 Jyēshṭha
3890	711	846	195		*788-89	1 Prabhava		...
3891	712	847	196		789-90	2 Vibhava		11 Māgha
3892	713	848	197		790-91	3 Śukla		...
3893	714	849	198		791-92	4 Pramōda		...
3894	715	850	199		*792-93	5 Prajāpati		8 Kārttika
3895	716	851	200		793-94	6 Aṅgiras		...

XC—*contd.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha samkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
22 Mar. (81)	4 Wed.	3 40 30	13 Mar. (72)	2 Mon.	195·2912	3871
22 Mar. (81)	5 Thur.	9 52 39	2 Mar. (61)	6 Fri.	71·0141	3872
22 Mar. (81)	6 Fri.	16 4 48	21 Mar. (80)	5 Thur.	105·6965	3873
21 Mar. (81)	0 Sat.	22 16 57	10 Mar. (70)	3 Tues.	320·0513	3874
22 Mar. (81)	2 Mon.	4 29 6	27 Feb. (58)	0 Sat.	195·7741	3875
22 Mar. (81)	3 Tues.	10 41 15	18 Mar. (77)	6 Fri.	230·4566	3876
22 Mar. (81)	4 Wed.	16 53 24	7 Mar. (66)	3 Tues.	106·1793	3877
21 Mar. (81)	5 Thur.	23 5 33	25 Feb. (56)	1 Sun.	320·5342	3878
22 Mar. (81)	0 Sat.	5 17 42	14 Mar. (73)	6 Fri.	16·5846	3879
22 Mar. (81)	1 Sun.	11 29 51	4 Mar. (63)	4 Wed.	230·9395	3880
22 Mar. (81)	2 Mon.	17 42 0	21 Feb. (52)	1 Sun.	106·6622	3881
21 Mar. (81)	3 Tues.	23 54 9	11 Mar. (71)	0 Sat.	141·3446	3882
22 Mar. (81)	5 Thur.	6 6 18	28 Feb. (59)	4 Wed.	17·0675	3883
22 Mar. (81)	6 Fri.	12 18 27	19 Mar. (78)	3 Tues.	51·7499	3884
22 Mar. (81)	0 Sat.	18 30 36	9 Mar. (68)	1 Sun.	266·1047	3885
22 Mar. (82)	2 Mon.	0 42 45	26 Feb. (57)	5 Thur.	141·8276	3886
22 Mar. (81)	3 Tues.	6 54 54	16 Mar. (75)	4 Wed.	176·5100	3887
22 Mar. (81)	4 Wed.	13 7 3	5 Mar. (64)	1 Sun.	52·2327	3888
22 Mar. (81)	5 Thur.	19 19 12	23 Feb. (54)	6 Fri.	266·5876	3889
22 Mar. (82)	0 Sat.	1 31 21	13 Mar. (73)	5 Thur.	301·2700	3890
22 Mar. (81)	1 Sun.	7 43 30	2 Mar. (61)	2 Mon.	176·9929	3891
22 Mar. (81)	2 Mon.	13 55 39	21 Mar. (80)	1 Sun.	211·6752	3892
22 Mar. (81)	3 Tues.	20 7 48	10 Mar. (69)	5 Thur.	87·3981	3893
22 Mar. (82)	5 Thur.	2 19 57	28 Feb. (59)	3 Tues.	361·7530	3894
22 Mar. (81)	6 Fri.	8 32 6	17 Mar. (76)	1 Sun.	9997·8033 §	3895

§ Chaitra *śukla* 1 was suppressed.

TABLE

CONCURRENT YEAR.								
Kali.	Śaka	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam	A.D	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3896	717	852	201		794-95	7 Śrimukha . . .		...
3897	718	853	202		795-96	8 Bhāva . .		4 Āshāḍha
3898	719	854	203		*796-97	9 Yuvan . .		...
3899	720	855	204		797 98	10 Dhātṛi . .		...
3900	721	856	205		798-99	11 Īśvara . .		1 Chaitra
3901	722	857	206		799-800	12 Bahudhānya		...
3902	723	858	207		*800-01	13 Pramāthin .		9 Mārgaśira
3903	724	859	208		801-02	14 Vikrama		...
3904	725	860	209		802-03	15 Vrisha		...
3905	726	861	210		803 04	16 Chitrabhānu . .		6 Bhādrapada
3906	727	862	211		*804 05	17 Subhānu .		...
3907	728	863	212		805-06	18 Tāraṇa . .		...
3908	729	864	213		806-07	19 Pārthiva . .		2 Vaiśākha
3909	730	865	214		807-08	20 Vyaya . . .		...
3910	731	866	215		*808-09	21 Sarvajit . .		11 Māgha
3911	732	867	216		809-10	22 Sarvadhārin .		...
3912	733	868	217		810-11	23 Virōdhin . . .		...
3913	734	869	218		811 12	24 Vikṛita . . .		7 Āsvina
3914	735	870	219		*812-13	25 Khara . . .		...
3915	736	871	220		813-14	26 Nandana . . .		...
3916	737	872	221		814 15	27 Vijaya . . .		4 Āshādha
3917	738	873	222		815-16	28 Jaya . . .		. .
3918	739	874	223		*816-17	29 Manmatha . . .		12 Phālguna
3919	740	875	224		817-18	30 Durmukha . . .		...
3920	741	876	225		818-19	31 Hēmalamba† . .		...

† 32 Vilamba was suppressed by mean reckoning. By *Brahma-Siddhānta* "true" reckoning the year K. Y 3921, A D. 819-20, was 32 "Vilamba," and 33 Vikāṭa was suppressed.

XC—*contd.*

COMMENCEMENT OF THE												Kali.
MEAN SOLAR YEAR.						MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).						
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.				Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).				
13	14	17				19	20	23				1
		H.	M.	S.								
22 Mar. (81)	0 Sat.	14	44	15		7 Mar. (66)	6 Fri.	212·1581				3896
22 Mar. (81)	1 Sun.	20	56	24		24 Feb. (55)	3 Tues.	87·8810				3897
22 Mar. (82)	3 Tues.	3	8	33		14 Mar. (74)	2 Mon.	122·5633				3898
22 Mar. (81)	4 Wed.	9	20	42		3 Mar. (62)	6 Fri.	9998·2862§				3899
22 Mar. (81)	5 Thur.	15	32	51		21 Feb. (52)	4 Wed.	212·6410				3900
22 Mar. (81)	6 Fri.	21	45	0		12 Mar. (71)	3 Tues.	247·3234				3901
22 Mar. (82)	1 Sun.	3	57	9		29 Feb. (60)	0 Sat.	123·0463				3902
22 Mar. (81)	2 Mon.	10	9	18		19 Mar. (78)	6 Fri.	157·7287				3903
22 Mar. (81)	3 Tues.	16	21	27		8 Mar. (67)	3 Tues.	33·4515				3904
22 Mar. (81)	4 Wed.	22	33	36		26 Feb. (57)	1 Sun.	247·8064				3905
22 Mar. (82)	6 Fri.	4	45	45		16 Mar. (76)	0 Sat.	282·4888				3906
22 Mar. (81)	0 Sat.	10	57	54		5 Mar. (64)	4 Wed.	158·2115				3907
22 Mar. (81)	1 Sun.	17	10	3		22 Feb. (53)	1 Sun.	33·9344				3908
22 Mar. (81)	2 Mon.	23	22	12		13 Mar. (72)	0 Sat.	68·6168				3909
22 Mar. (82)	4 Wed.	5	34	21		2 Mar. (62)	5 Thur.	282·9716				3910
22 Mar. (81)	5 Thur.	11	46	30		21 Mar. (80)	4 Wed.	317·6540				3911
22 Mar. (81)	6 Fri.	17	58	39		10 Mar. (69)	1 Sun.	193·3769				3912
23 Mar. (82)	1 Sun.	0	10	48		27 Feb. (58)	5 Thur.	69·0998				3913
22 Mar. (82)	2 Mon.	6	22	57		17 Mar. (77)	4 Wed.	103·7821				3914
22 Mar. (81)	3 Tues.	12	35	6		7 Mar. (66)	2 Mon.	318·1369				3915
22 Mar. (81)	4 Wed.	18	47	15		24 Feb. (55)	6 Fri.	193·8598				3916
23 Mar. (82)	6 Fri.	0	59	24		15 Mar. (74)	5 Thur.	228·5421				3917
22 Mar. (82)	0 Sat.	7	11	33		3 Mar. (63)	2 Mon.	104·2650				3918
22 Mar. (81)	1 Sun.	13	23	42		22 Mar. (81)	1 Sun.	138·9474				3919
22 Mar. (81)	2 Mon.	19	35	51		11 Mar. (70)	5 Thur.	14·6703				3920

§ Chaitra *śukla* 1 was suppressed.

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAṂVATSARA.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3021	742	877	226		819-20	33 *Vikārin*		9 Mārgaśīra
3922	743	878	227		*820-21	34 *Śārvarin*		...
3923	744	879	228		821-22	35 *Plava*		...
3924	745	880	229		822-23	36 *Śubhakṛit*		6 Bhādrapada‡
3925	746	881	230		823-24	37 *Śōbhana*		...
3926	747	882	231		*824-25	38 Krōdhin		...
3927	748	883	232	0-1	825-26	39 Viśvāvasu		2 Vaiśākha
3928	749	884	233	1-2	826-27	40 Parābhava		...
3929	750	885	234	2-3	827-28	41 Plavaṅga		11 Māgha
3930	751	886	235	3-4	*828-29	42 Kīlaka		...
3931	752	887	236	4-5	829-30	43 Saumya		..
3932	753	888	237	5-6	830-31	44 Sādhārana		7 Āśvina
3933	754	889	238	6-7	831-32	45 Virōdhakṛit		...
3934	755	890	239	7-8	*832-33	46 Paridhāvin		...
3935	756	891	240	8-9	833-34	47 Pramādin		4 Āshādha
3936	757	892	241	9-10	834-35	48 Ānanda		...
3937	758	893	242	10-11	835-36	49 Rākshasa		12 Phālguna
3938	759	894	243	11-12	*836-37	50 Anala		...
3939	760	895	244	12-13	837-38	51 Pingala		...
3940	761	896	245	13-14	838-39	52 Kālayukta		9 Mārgaśīra
3941	762	897	246	14-15	839-40	53 Siddhārthin		...
3942	763	898	247	15-16	*840-41	54 Raudra		...
3943	764	899	248	16-17	841-42	55 Durmati		5 Śrāvaṇa
3944	765	900	249	17-18	842-43	56 Dundubhi		...
3945	766	901	250	18-19	843-44	57 Rudhirōdgārin		...

‡ See "Remarks," p. 215 above.

XC—*contd.*

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).		
13	14	17	19	20	23		1
		H. M. S.					
23 Mar. (82)	4 Wed.	1 46 0	1 Mar. (60)	3 Tues.	229·0250		3921
22 Mar. (82)	5 Thur.	8 0 9	19 Mar. (79)	2 Mon.	263·7074		3922
22 Mar. (81)	6 Fri.	14 12 18	8 Mar. (67)	6 Fri.	139·4313		3923
22 Mar. (81)	0 Sat.	20 24 27	25 Feb. (56)	3 Tues.	15·1531		3924
23 Mar. (82)	2 Mon.	2 36 36	16 Mar. (75)	2 Mon.	49·8355		3925
22 Mar. (82)	3 Tues.	8 48 45	5 Mar. (65)	0 Sat.	264·1904		3926
22 Mar. (81)	4 Wed.	15 0 54	22 Feb. (53)	1 Wed.	139·9132		3927
22 Mar. (81)	5 Thur.	21 13 3	13 Mar. (72)	3 Tues.	174·5955		3928
23 Mar. (82)	0 Sat.	3 25 12	2 Mar. (61)	0 Sat.	50·3184		3929
22 Mar. (82)	1 Sun.	9 37 21	20 Mar. (80)	6 Fri.	85·0009		3930
22 Mar. (81)	2 Mon.	15 49 30	10 Mar. (69)	4 Wed.	299·3556		3931
22 Mar. (81)	3 Tues.	22 1 39	27 Feb. (58)	1 Sun.	175·0784		3932
23 Mar. (82)	5 Thur.	4 13 48	18 Mar. (77)	0 Sat.	209·7609		3933
22 Mar. (82)	6 Fri.	16 25 57	6 Mar. (66)	4 Wed.	85·4337		3934
22 Mar. (81)	0 Sat.	16 38 6	21 Feb. (55)	2 Mon.	299·8385		3935
22 Mar. (81)	1 Sun.	22 50 15	14 Mar. (73)	0 Sat.	9995·8889	§	3936
23 Mar. (82)	3 Tues.	5 2 24	4 Mar. (63)	5 Thur.	210·2438		3937
22 Mar. (82)	4 Wed.	11 14 33	22 Mar. (82)	4 Wed.	244·9262		3938
22 Mar. (81)	5 Thur.	17 26 42	11 Mar. (70)	1 Sun.	120·6490		3939
22 Mar. (81)	0 Fri.	23 38 51	28 Feb. (59)	5 Thur.	9996·3718	§	3940
23 Mar. (82)	1 Sun.	5 51 0	19 Mar. (78)	4 Wed.	31·0542		3941
22 Mar. (82)	2 Mon.	12 3 9	8 Mar. (68)	2 Mon.	215·4090		3942
22 Mar. (81)	3 Tues.	18 15 18	25 Feb. (56)	6 Fri.	121·1319		3943
23 Mar. (82)	5 Thur.	0 27 27	16 Mar. (75)	5 Thur.	155·8143		3944
23 Mar. (82)	6 Fri.	6 39 36	5 Mar. (64)	2 Mon.	31·5372		3945

§ Chaitra *śukla* 1 was suppressed.

TABLE

CONCURRENT YEAR								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
3946	767	902	251	19-20	*844-45	58 Raktāksha		2 Vaiśākha
3947	768	903	252	20-21	845-46	59 Krōdhana		...
3948	769	904	253	21-22	846-47	60 Kshaya		10 Pausha
3949	770	905	254	22-23	847-48	1 Prabhava		...
3950	771	906	255	23-24	*848-49	2 Vibhava		...
3951	772	907	256	24-25	849-50	3 Śukla		7 Aśvina
3952	773	908	257	25-26	850-51	4 Pramōda		...
3953	774	909	258	26-27	851-52	5 Prajāpati		...
3954	775	910	259	27-28	*852-53	6 Angiras		3 Jyēshtha
3955	776	911	260	28-29	853-54	7 Śrīmukha		...
3956	777	912	261	29-30	854-55	8 Bhāva		12 Phālguna
3957	778	913	262	30-31	855-56	9 Yuvan		...
3958	779	914	263	31-32	*856-57	10 Dhātṛi		
3959	780	915	264	32-33	857-58	11 Īśvara		8 Kārttika
3960	781	916	265	33-34	858-59	12 Bahudhānya		...
3961	782	917	266	34-35	859-60	13 Pramāthin		...
3962	783	918	267	35-36	*860-61	14 Vikrama		5 Srāvana
3963	784	919	268	36-37	861-62	15 Vrisha		...
3964	785	920	269	37-38	862-63	16 Chitrabhānu		...
3965	786	921	270	38-39	863-64	17 Subhānu		2 Vaiśākha
3966	787	922	271	39-40	*864-65	18 Tārana		...
3967	788	923	272	40-41	865-66	19 Pārthiva		10 Pausha
3968	789	924	273	41-42	866-67	20 Vyaya		...
3969	790	925	274	42-43	867-68	21 Sarvajit		...
3970	791	926	275	43-44	*868-69	22 Sarvadhārin		7 Aśvina

XC—*contd.*

COMMENCEMENT OF THE						Kali
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here $=t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
22 Mar. (82)	0 Sat.	12 51 45	23 Feb. (54)	0 Sat.	245·8919	3946
22 Mar. (81)	1 Sun.	18 3 54	13 Mar. (76)	6 Fri.	280·5743	3947
23 Mar. (82)	3 Tues.	1 16 3	2 Mar. (61)	3 Tues.	156·2972	3948
23 Mar. (82)	4 Wed.	7 28 12	21 Mar. (80)	2 Mon.	190·9796	3949
22 Mar. (82)	5 Thur.	13 40 21	9 Mar. (69)	6 Fri.	66·7024	3950
22 Mar. (81)	6 Fri.	19 52 30	27 Feb. (58)	4 Wed.	281·0572	3951
23 Mar. (82)	1 Sun.	2 4 39	18 Mar. (77)	3 Tues.	315·7397	3952
23 Mar. (82)	2 Mon.	8 16 48	7 Mar. (66)	0 Sat.	191·4624	3953
22 Mar. (82)	3 Tues.	14 28 57	24 Feb. (55)	4 Wed.	67·1853	3954
22 Mar. (81)	4 Wed.	20 41 6	14 Mar. (73)	3 Tues.	101·8677	3955
23 Mar. (82)	6 Fri.	2 53 15	4 Mar. (63)	1 Sun.	316·2225	3956
23 Mar. (82)	0 Sat.	9 5 24	22 Mar. (81)	6 Fri.	12·2729	3957
22 Mar. (82)	1 Sun.	15 17 33	11 Mar. (71)	4 Wed.	226·6278	3958
22 Mar. (81)	2 Mon.	21 29 42	28 Feb. (59)	1 Sun.	102·3506	3959
23 Mar. (82)	4 Wed.	3 41 51	19 Mar. (78)	0 Sat.	137·0329	3960
23 Mar. (82)	5 Thur.	9 54 0	8 Mar. (67)	4 Wed.	12·7558	3961
22 Mar. (82)	6 Fri.	16 6 9	26 Feb. (57)	2 Mon.	227·1107	3962
22 Mar. (81)	0 Sat.	22 18 18	16 Mar. (75)	1 Sun.	261·7930	3963
23 Mar. (82)	2 Mon.	4 30 27	5 Mar. (64)	5 Thur.	137·5159	3964
23 Mar. (82)	3 Tues.	10 42 36	22 Feb. (53)	2 Mon.	13·2387	3965
22 Mar. (82)	4 Wed.	16 54 45	12 Mar. (72)	1 Sun.	47·9211	3966
22 Mar. (81)	5 Thur.	23 6 54	2 Mar. (61)	6 Fri.	262·2759	3967
23 Mar. (82)	0 Sat.	5 19 3	21 Mar. (80)	5 Thur.	296·9584	3968
23 Mar. (82)	1 Sun.	11 31 12	10 Mar. (69)	2 Mon.	172·6812	3969
22 Mar. (82)	2 Mon.	17 43 21	27 Feb. (58)	6 Fri.	48·4039	3970

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
3971	792	927	276	44-45	869-70	23 Virōdhin		...
3972	793	928	277	45-46	870-71	24 Vikṛita		...
3973	794	929	278	46-47	871-72	25 Khara		3 Jyēshṭha
3974	795	930	279	47-48	*872-73	26 Nandana		...
3975	796	931	280	48-49	873-74	27 Vijaya		12 Phālguna
3976	797	932	281	49-50	874-75	28 Jaya		...
3977	798	933	282	50-51	875-76	29 Manmatha		...
3978	799	934	283	51-52	*876-77	30 Durmukha		8 Kārttika
3979	800	935	284	52-53	877-78	31 Hēmalamba		...
3980	801	936	285	53 54	878-79	32 Vilamba		...
3981	802	937	286	54-55	879-80	33 Vikārin		5 Śrāvaṇa
3982	803	938	287	55-56	*880-81	34 Śārvarin		...
3983	804	939	288	56-57	881-82	35 Plava		...
3984	805	940	289	57-58	882-83	36 Śubhakṛit		1 Chaitra
3985	806	941	290	58-59	883-84	37 Śōbhana		...
3986	807	942	291	59-60	*884-85	38 Krōdhin		10 Pausha
3987	808	943	292	60-61	885-86	39 Viśvāvasu		...
3988	809	944	293	61-62	886-87	40 Parābhava		...
3989	810	945	294	62-63	887-88	41 Plavanga		6 Bhādrapada
3990	811	946	295	63-64	*888-89	42 Kīlaka		...
3991	812	947	296	64-65	889-90	43 Saumya		...
3992	813	948	297	65-66	890-91	44 Sādhārana		3 Jyēshtha
3993	814	949	298	66-67	891-92	45 Virōdhakrit		...
3994	815	950	299	67-68	*892-93	46 Paridhāvin		11 Māgha
3995	816	951	300	68-69	893-94	47 Pramādin		...

XC—*contd.*

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrāṅti.	Day and month, A.D.	Week-day.	a (here $= t$, the Index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
22 Mar. (81)	3 Tues.	23 55 30	17 Mar. (76)	5 Thur.	83·0864	3971
23 Mar. (82)	5 Thur.	6 7 39	7 Mar. (66)	3 Tues.	297·4412	3972
23 Mar. (82)	6 Fri.	12 19 48	24 Feb. (55)	0 Sat.	173·1641	3973
22 Mar. (82)	0 Sat.	18 31 57	14 Mar. (74)	6 Fri.	207·8464	3974
23 Mar. (82)	2 Mon.	0 44 6	3 Mar. (62)	3 Tues.	83·5693	3975
23 Mar. (82)	3 Tues.	6 56 15	22 Mar. (81)	2 Mon.	118·2517	3976
23 Mar. (82)	4 Wed.	13 8 24	12 Mar. (71)	0 Sat.	332·6065	3977
22 Mar. (82)	5 Thur.	19 20 33	29 Feb. (60)	4 Wed.	208·3293	3978
23 Mar. (82)	0 Sat.	1 32 42	19 Mar. (78)	3 Tues.	243·0118	3979
23 Mar. (82)	1 Sun.	7 44 51	8 Mar. (67)	0 Sat.	118·7346	3980
23 Mar. (82)	2 Mon.	13 57 0	26 Feb. (57)	5 Thur.	333·0894	3981
22 Mar. (82)	3 Tues.	20 9 9	15 Mar. (75)	3 Tues.	29·1398	3982
23 Mar. (82)	5 Thur.	2 21 18	5 Mar. (64)	1 Sun.	243·4947	3983
23 Mar. (82)	6 Fri.	8 33 27	22 Feb. (53)	5 Thur.	119·2175	3984
23 Mar. (82)	0 Sat.	14 45 36	13 Mar. (72)	4 Wed.	153·8998	3985
22 Mar. (82)	1 Sun.	20 57 45	1 Mar. (61)	1 Sun.	29·6227	3986
23 Mar. (82)	3 Tues.	3 9 54	20 Mar. (79)	0 Sat.	64·3052	3987
23 Mar. (82)	4 Wed.	9 22 3	10 Mar. (69)	5 Thur.	278·6599	3988
23 Mar. (82)	5 Thur.	15 34 12	27 Feb. (58)	2 Mon.	154·3828	3989
22 Mar. (82)	6 Fri.	21 46 21	17 Mar. (77)	1 Sun.	189·0652	3990
23 Mar. (82)	1 Sun.	3 58 30	6 Mar. (65)	5 Thur.	64·7881	3991
23 Mar. (82)	2 Mon.	10 10 39	24 Feb. (55)	3 Tues.	279·1428	3992
23 Mar. (82)	3 Tues.	16 22 48	15 Mar. (74)	2 Mon.	313·8252	3993
22 Mar. (82)	4 Wed.	22 34 57	3 Mar. (63)	6 Fri.	189·5481	3994
23 Mar. (82)	6 Fri.	4 47 6	22 Mar. (81)	5 Thur.	224·2304	3995

TABLE

CONCURRENT YEAR.								Mean intercalated (*adhika*) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAṂVATSARA. Southern system.	JOVIAN SAṂVATSARA. Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
3996	817	952	301	69-70	894-95	48 Ānanda . . .		...
3997	818	953	302	70-71	895-96	49 Rākshasa . . .		8 Kārttika .
3998	819	954	303	71-72	*896-97	50 Anala . . .		...
3999	820	955	304	72-73	897-98	51 Pingala . . .		...
4000	821	956	305	73-74	898-99	52 Kālayukta . . .		5 Śrāvaṇa .
4001	822	957	306	74-75	899-900	53 Siddhārthin . .		...
4002	823	958	307	75-76	*900-01	54 Raudra . . .		..
4003	824	959	308	76-77	901-02	55 Durmati . . .		1 Chaitra .
4004	825	960	309	77-78	902-03	56 Dundubhi . . .		...
4005	826	961	310	78-79	903-04	57 Rudhirōdgārin† . .		10 Pausha .
4006	827	962	311	79-80	*904-05	58 Raktākṣha .	59 *Krōdhana* .	...
4007	828	963	312	80-81	905-06	59 Krōdhana .	60 *Kshaya* . .	...
4008	829	964	313	81-82	906-07	60 Kshaya . .	1 *Prabhava* .	6 Bhādrapada
4009	830	965	314	82-83	907-08	1 Prabhava .	2 *Vibhava* .	...
4010	831	966	315	83-84	*908-09	2 Vibhava .	3 *Śukla* . .	...
4011	832	967	316	84-85	909-10	3 Śukla . .	4 Pramōda .	3 Jyēshṭha .
4012	833	968	317	85-86	910-11	4 Pramōda .	5 Prajāpati .	...
4013	834	969	318	86-87	911-12	5 Prajāpati .	6 Aṅgiras . .	11 Māgha .
4014	835	970	319	87-88	*912-13	6 Aṅgiras . .	7 Śrīmukha .	...
4015	836	971	320	88-89	913-14	7 Śrīmukha .	8 Bhāva . .	...
4016	837	972	321	89-90	914-15	8 Bhāva . .	9 Yuvan . .	8 Kārttika .
4017	838	973	322	90-91	915-16	9 Yuvan . .	10 Dhātṛi . .	...
4018	839	974	323	91-92	*916-17	10 Dhātṛi . .	11 Īśvara . .	...
4019	840	975	324	92-93	917-18	11 Īśvara . .	12 Bahudhānya .	4 Ashāḍha .
4020	841	976	325	93-94	918-19	12 Bahudhānya .	13 Pramāthin .	...

† 58 Raktākṣha was suppressed in the north. By southern reckoning there was no suppression, and there has been none since. By *Brahma-Siddhānta* "true" reckoning K.Y. 4006, A.D. 904-05, was 58 Raktākṣha, 59 Krōdhana being suppressed in the north.

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.				MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.		Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).	
13	14	17		19	20	23	1
		H. M. S.					
23 Mar. (82)	0 Sat.	10 59 15		11 Mar. (70)	2 Mon.	99·9533	3996
23 Mar. (82)	1 Sun.	17 11 24		1 Mar. (60)	0 Sat.	314·3081	3997
22 Mar. (82)	2 Mon.	23 23 33		18 Mar. (78)	5 Thur.	10·3584	3998
23 Mar. (82)	4 Wed.	5 35 42		8 Mar. (67)	3 Tues.	224·7133	3999
23 Mar. (82)	5 Thur.	11 47 51		25 Feb. (56)	0 Sat.	100·4362	4000
23 Mar. (82)	6 Fri.	18 0 0		16 Mar. (75)	6 Fri.	135·1186	4001
23 Mar. (83)	1 Sun.	0 12 9		4 Mar. (64)	3 Tues.	10·8415	4002
23 Mar. (82)	2 Mon.	6 24 18		22 Feb. (53)	1 Sun.	225·4963	4003
23 Mar. (82)	3 Tues.	12 36 27		13 Mar. (72)	0 Sat.	259·8786	4004
23 Mar. (82)	4 Wed.	18 48 36		2 Mar. (61)	4 Wed.	135·6015	4005
23 Mar. (83)	6 Fri.	1 0 45		20 Mar. (80)	3 Tues.	170·2839	4006
23 Mar. (82)	0 Sat.	7 12 54		9 Mar. (68)	0 Sat.	46·0067	4007
23 Mar. (82)	1 Sun.	13 25 3		27 Feb. (58)	5 Thur.	260·3616	4008
23 Mar. (82)	2 Mon.	19 37 12		18 Mar. (77)	4 Wed.	295·0440	4009
23 Mar. (83)	4 Wed.	1 49 21		6 Mar. (66)	1 Sun.	170·7668	4010
23 Mar. (82)	5 Thur.	8 1 30		23 Feb. (54)	5 Thur.	46·4896	4011
23 Mar. (82)	6 Fri.	14 13 39		14 Mar. (73)	4 Wed.	81·1720	4012
23 Mar. (82)	0 Sat.	20 25 48		4 Mar. (63)	2 Mon.	295·5269	4013
23 Mar. (83)	2 Mon.	2 37 57		22 Mar. (82)	1 Sun.	330·2092	4014
23 Mar. (82)	3 Tues.	8 50 6		11 Mar. (70)	5 Thur.	205·9321	4015
23 Mar. (82)	4 Wed.	15 2 15		28 Feb. (59)	2 Mon.	81·6549	4016
23 Mar. (82)	5 Thur.	21 14 24		19 Mar. (78)	1 Sun.	116·3373	4017
23 Mar. (83)	0 Sat.	3 26 33		8 Mar. (68)	6 Fri.	330·6921	4018
23 Mar. (82)	1 Sun.	9 38 42		25 Feb. (56)	3 Tues.	206·1150	4019
23 Mar. (82)	2 Mon.	15 50 51		16 Mar. (75)	2 Mon.	241·0974	4020

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal	Kollam.	A.D.	Jovian Saṃvatsara. Southern system.	Jovian Saṃvatsara. Northern system.	Mean intercalated (*adhika*) lunar month.
1	2	3	3*a*	4	5	6	7	8*a*
4021	842	977	326	94-95	919-20	13 Pramāthin	14 Vikrama	...
4022	843	978	327	95-96	*920-21	14 Vikrama	15 Vrisha	1 Chaitra
4023	844	979	328	96-97	921-22	15 Vrisha	16 Chitrabhānu	...
4024	845	980	329	97-98	922-23	16 Chitrabhānu	17 Subhānu	9 Mārgaśīrsha
4025	846	981	330	98-99	923-24	17 Subhānu	18 Tārana	..
4026	847	982	331	99-100	*924-25	18 Tāraṇa	19 Pārthiva	...
4027	848	983	332	100-01	925-26	19 Pārthiva	20 Vyaya	6 Bhādrapada
4028	849	984	333	101-02	926-27	20 Vyaya	21 Sarvajit	...
4029	850	985	334	102-03	927-28	21 Sarvajit	22 Sarvadhārin	..
4030	851	986	335	103-04	*928-29	22 Sarvadhārin	23 Virōdhin	2 Vaiśākha
4031	852	987	336	104-05	929-30	23 Virōdhin	24 Vikṛita	...
4032	853	988	337	105-06	930-31	24 Vikṛita	25 Khara	11 Māgha
4033	854	989	338	106-07	931-32	25 Khara	26 Nandana	...
4034	855	990	339	107-08	*932-33	26 Nandana	27 Vijaya	...
4035	856	991	340	108-09	933-34	27 Vijaya	28 Jaya	7 Āśvina
4036	857	992	341	109-10	934-35	28 Jaya	29 Manmatha	..
4037	858	993	342	110-11	935-36	29 Manmatha	30 Durmukha	
4038	859	994	343	111-12	*936-37	30 Durmukha	31 Hēmalamba	4 Āshāḍha
4039	860	995	344	112-13	937-38	31 Hēmalamba	32 Vilamba	
4040	861	996	345	113-14	938-39	32 Vilamba	33 Vikārin	..
4041	862	997	346	114-15	939-40	33 Vikārin	34 Śārvarin	1 Chaitra
4042	863	998	347	115-16	*940-41	34 Śārvarin	35 Plava	...
4043	864	999	348	116-17	941-42	35 Plava	36 Śubhakṛit	9 Māṛgaśīrsha
4044	865	1000	349	117-18	942-43	36 Subhakṛit	37 Śōbhana	...
4045	866	1001	350	118-19	943-44	37 Śōbhana	38 Krōdhin	...

XC—*contd.*

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).		
13	14	17	19	20	23		1
		H. M. S					
23 Mar. (82)	3 Tues.	22 3 0	5 Mar. (64)	6 Fri.	116·8202		4021
23 Mar. (83)	5 Thur.	4 15 9	23 Feb. (54)	4 Wed.	331·1750		4022
23 Mar. (82)	6 Fri.	10 27 18	12 Mar. (71)	2 Mon.	27·2254		4023
23 Mar. (82)	0 Sat.	16 39 27	2 Mar. (61)	0 Sat.	241·5802		4024
23 Mar. (82)	1 Sun.	22 51 36	21 Mar. (80)	6 Fri.	276·2626		4025
23 Mar. (83)	3 Tues.	5 3 45	9 Mar. (69)	3 Tues.	151·9855		4026
23 Mar. (82)	4 Wed.	11 15 54	26 Feb. (57)	0 Sat.	27·7084		4027
23 Mar. (82)	5 Thur.	17 28 3	17 Mar. (76)	6 Fri.	62·3907		4028
23 Mar. (82)	6 Fri.	23 40 12	7 Mar. (66)	4 Wed.	276·7455		4029
23 Mar. (83)	1 Sun.	5 52 21	24 Feb. (55)	1 Sun.	152·4684		4030
23 Mar. (82)	2 Mon.	12 4 30	11 Mar. (73)	0 Sat.	187 1507		4031
23 Mar. (82)	3 Tues.	18 16 39	3 Mar. (62)	4 Wed.	62·8736		4032
24 Mar. (83)	5 Thur.	0 28 48	22 Mar. (81)	3 Tues.	97 5560		4033
23 Mar. (83)	6 Fri.	6 40 57	11 Mar. (71)	1 Sun.	311·9109		4034
23 Mar. (82)	0 Sat.	12 53 6	28 Feb. (59)	5 Thur.	187 6336		4035
23 Mar. (82)	1 Sun.	19 5 15	19 Mar. (78)	4 Wed.	222·3161		4036
24 Mar. (83)	3 Tues.	1 17 24	8 Mar. (67)	1 Sun.	98·0389		4037
23 Mar. (83)	4 Wed.	7 29 33	26 Feb. (57)	6 Fri.	312·3938		4038
23 Mar. (82)	5 Thur.	13 41 42	15 Mar. (74)	4 Wed.	8·4441		4039
23 Mar. (82)	6 Fri.	19 53 51	5 Mar. (64)	2 Mon.	222 7990		4040
24 Mar. (83)	1 Sun.	2 6 0	22 Feb. (53)	6 Fri.	98 5213		4041
23 Mar. (83)	2 Mon.	8 18 9	12 Mar. (72)	5 Thur.	133·2012		4042
23 Mar. (82)	3 Tues.	14 30 18	1 Mar. (60)	2 Mon.	8·9270		4043
23 Mar. (82)	4 Wed.	20 42 27	20 Mar. (79)	1 Sun.	43·6094		4044
24 Mar. (83)	6 Fri.	2 54 36	10 Mar. (69)	6 Fri.	257·9643		4045

TABLE

CONCURRENT YEAR.								
Kali	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3 *a*	4	5	6	7	8*a*
4046	867	1002	351	119-20	*944-45	38 Kṛodhin . .	39 Viśvāvasu .	6 Bhādrapada
4047	868	1003	352	120 21	945-46	39 Viśvāvasu .	40 Parābhava .	...
4048	869	1004	353	121-22	946-47	40 Parābhava .	41 Plavanga .	...
4049	870	1005	354	122-23	947-48	41 Plavanga .	42 Kīlaka .	2 Vaisākha .
4050	871	1006	355	123-24	*948 49	42 Kīlaka . .	43 Saumya . .	...
4051	872	1007	356	124-25	949-50	43 Saumya . .	44 Sādhāraṇa .	11 Māgha .
4052	873	1008	357	125-26	950-51	44 Sādhāraṇa .	45 Virōdhakṛit .	...
4053	874	1009	358	126-27	951-52	45 Virōdhakṛit .	46 Paridhāvin .	...
4054	875	1010	359	127-28	*952-53	46 Paridhāvin .	47 Pramādin .	7 Āsvina .
4055	876	1011	360	128-29	953-54	47 Pramādin .	48 Ānanda .	...
4056	877	1012	361	129-30	954-55	48 Ānanda . .	49 Rākshasa	...
4057	878	1013	362	130-31	955-56	49 Rākshasa .	50 Anala . .	4 Āshādha .
4058	879	1014	363	131-32	*956-57	50 Anala . .	51 Pingala .	...
4059	880	1015	364	132-33	957-58	51 Pingala . .	52 Kālayukta .	12 Phālguna
4060	881	1016	365	133-34	958-59	52 Kālayukta .	53 Siddhārthin	...
4061	882	1017	366	134-35	959-60	53 Siddhārthin .	54 Raudra . .	...
4062	883	1018	367	135-36	*960-61	54 Raudra . .	55 Durmati . .	9 Mārgaśira .
4063	884	1019	368	136-37	961-62	55 Durmati .	56 Dundubhi .	...
4064	885	1020	369	137-38	962-63	56 Dundubhi .	57 Rudhirōdgārin .	.
4065	886	1021	370	138 39	963-64	57 Rudhirōdgārin .	58 Raktāksha	5 Śrāvaṇa .
4066	887	1022	371	139-40	*964-65	58 Raktāksha .	59 Krōdhana .	
4067	888	1023	372	140-41	965-66	59 Krōdhana .	60 Kshaya .	...
4068	889	1024	373	141-42	966-67	60 Kshaya . .	1 Prabhava .	2 Vaiśākha .
4069	890	1025	374	142-43	967-68	1 Prabhava .	2 Vibhava . .	...
4070	891	1026	375	143-44	*968-69	2 Vibhava . .	3 Sukla . .	10 Pausha .

XC—*contd.*

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).		
13	14	17	19	20	23		1
		H. M. S.					
23 Mar. (83) . .	0 Sat. .	9 6 45	27 Feb. (58) .	3 Tues. .	133·6871		4046
23 Mar. (82) . .	1 Sun. .	15 18 54	17 Mar. (76) .	2 Mon. .	168·3695		4047
23 Mar. (82) . .	2 Mon. .	21 31 3	6 Mar. (65) .	6 Fri. .	44·0923		4048
24 Mar. (83) . .	4 Wed. .	3 43 12	24 Feb. (55) .	4 Wed. .	258·4471		4049
23 Mar. (83) . .	5 Thur. .	9 55 21	14 Mar. (74) .	3 Tues. .	293·1295		4050
23 Mar. (82) . .	6 Fri. .	16 7 30	3 Mar. (62) .	0 Sat. .	168·8524		4051
23 Mar. (82) . .	0 Sat. .	22 19 39	22 Mar. (81) .	6 Fri. .	203·5348		4052
24 Mar. (83) . .	2 Mon. .	4 31 48	11 Mar. (70) .	3 Tues. .	79·2576		4053
23 Mar. (83) . .	3 Tues. .	10 43 57	29 Feb. (60) .	1 Sun. .	293·6125		4054
23 Mar. (82) . .	4 Wed. .	16 56 6	19 Mar. (78) .	0 Sat. .	328·2949		4055
23 Mar. (82) . .	5 Thur. .	23 8 15	8 Mar. (67) .	4 Wed. .	204·0176		4056
24 Mar. (83) . .	0 Sat. .	5 20 24	25 Feb. (56) .	1 Sun. .	79·7405		4057
23 Mar. (83) . .	1 Sun. .	11 32 33	15 Mar. (75) .	0 Sat. .	114·4229		4058
23 Mar. (82) . .	2 Mon. .	17 44 42	5 Mar. (64) .	5 Thur. .	328·7778		4059
23 Mar. (82) . .	3 Tues. .	23 56 51	23 Mar. (82) .	1 Sun. .	24·8281		4060
24 Mar. (83) . .	5 Thur. .	6 9 0	13 Mar. (72) .	1 Sun. .	239·1830		4061
23 Mar. (83) . .	6 Fri. .	12 21 9	1 Mar. (61) .	5 Thur. .	114·9058		4062
23 Mar. (82) . .	0 Sat. .	18 33 18	20 Mar. (79) .	4 Wed. .	149·5881		4063
24 Mar. (83) . .	2 Mon. .	0 45 27	9 Mar. (68) .	1 Sun. .	25·3110		4064
24 Mar. (83) . .	3 Tues. .	6 57 36	27 Feb. (58) .	6 Fri. .	239·6659		4065
23 Mar. (83) . .	4 Wed. .	13 9 45	17 Mar. (77) .	5 Thur. .	274·3483		4066
23 Mar. (82) . .	5 Thur. .	19 21 54	6 Mar. (65) .	2 Mon. .	150·0710		4067
24 Mar. (83) . .	0 Sat .	1 34 3	23 Feb. (54) .	6 Fri. .	25·7939		4068
24 Mar. (83) . .	1 Sun. .	7 46 12	14 Mar. (73) .	5 Thur. .	60·4763		4069
23 Mar. (83) . .	2 Mon. .	13 58 21	3 Mar. (63) .	3 Tues. .	274·8311		4070

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4071	892	1027	376	144-45	969-70	3 Śukla . .	4 Pramoda .	...
4072	893	1028	377	145-46	970-71	4 Pramōda .	5 Prajāpati .	...
4073	894	1029	378	146-47	971-72	5 Prajāpati .	6 Angiras . .	7 Āśvina .
4074	895	1030	379	147-48	*972-73	6 Aṅgiras . .	7 Śrīmukha .	
4075	896	1031	380	148-49	973-74	7 Śrīmukha .	8 Bhāva . .	...
4076	897	1032	381	149-50	974-75	8 Bhāva . .	9 Yuvan . .	4 Āshāḍha .
4077	898	1033	382	150-51	975-76	9 Yuvan .	10 Dhāṭṛi . .	...
4078	899	1034	383	151-52	*976-77	10 Dhātri . .	11 Īśvara . .	12 Phālguna .
4079	900	1035	384	152-53	977-78	11 Iśvara . .	12 Bahudhānya .	...
4080	901	1036	385	153-54	978-79	12 Bahudhānya .	13 Pramāthin .	...
4081	902	1037	386	154-55	979-80	13 Pramāthin .	14 Vikrama .	9 Mārgasirsha .
4082	903	1038	387	155-56	*980-81	14 Vikrama .	15 Vṛisha . .	...
4083	904	1039	388	156-57	981-82	15 Vṛisha . .	16 Chitrabhānu .	...
4084	905	1040	389	157-58	982-83	16 Chitrabhānu .	17 Subhānu .	5 Śrāvaṇa .
4085	906	1041	390	158-59	983-84	17 Subhānu .	18 Tārana . .	...
4086	907	1042	391	159-60	*984-85	18 Tārana . .	19 Pārthiva .	...
4087	908	1043	392	160-61	985-86	19 Pārthiva .	20 Vyaya . .	2 Vaiśākha .
4088	909	1044	393	161-62	986-87	20 Vyaya . .	21 Sarvajit . .	...
4089	910	1045	394	162-63	987-88	21 Sarvajit . .	22 Sarvadhārin .	10 Pausha
4090	911	1046	395	163-64	*988-89	22 Sarvadhārin .	23 Virōdhin .	..
4091	912	1047	396	164-65	989-90	23 Virōdhin .	24 Vikṛita † .	...
4092	913	1048	397	165-66	990-91	24 Vikṛita . .	26 *Nandana* .	7 Āśvina .
4093	914	1049	398	166-67	991-92	25 Khara . . .	27 *Vijaya* . .	...
4094	915	1050	399	167-68	*992-93	26 Nandana . .	28 *Jaya* . .	...
4095	916	1051	400	168-69	993-94	27 Vijaya . .	29 *Manmatha* .	3 Jyēshṭha .

† 25 Khara was suppressed in the north by the *Brahma-Siddhānta* system, whether calculated by "true" or mean reckoning.

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS)			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here $= l$, the index of the *tithi*)	
13	14	17	19	20	23	1
		H. M S.				
23 Mar. (82)	3 Tues.	20 10 30	22 Mar. (81)	2 Mon.	309·5135	4071
24 Mar. (83)	5 Thur.	2 22 39	11 Mar. (70)	6 Fri.	185·2364	4072
24 Mar. (83)	6 Fri.	8 34 48	28 Feb. (59)	3 Tues.	60·9593	4073
23 Mar. (83)	0 Sat.	14 46 57	18 Mar. (78)	2 Mon.	95·6416	4074
23 Mar. (82)	1 Sun.	20 59 6	8 Mar. (67)	0 Sat.	309 9964	4075
24 Mar. (83)	3 Tues.	3 11 15	25 Feb. (56)	4 Wed.	185·7193	4076
24 Mar. (83)	4 Wed.	9 23 24	16 Mar. (75)	3 Tues.	220·4016	4077
23 Mar. (83)	5 Thur.	15 35 33	4 Mar. (64)	0 Sat.	96·1245	4078
23 Mar. (82)	6 Fri.	21 47 42	23 Mar. (82)	6 Fri.	130·8069	4079
24 Mar. (83)	1 Sun.	3 59 51	12 Mar. (71)	3 Tues.	6·5298	4080
24 Mar. (83)	2 Mon.	10 12 0	2 Mar. (61)	1 Sun.	220·8845	4081
23 Mar. (83)	3 Tues.	16 24 9	20 Mar. (80)	0 Sat.	255·5669	4082
23 Mar. (82)	4 Wed.	22 36 18	9 Mar. (68)	4 Wed.	131·2898	4083
24 Mar. (83)	6 Fri.	4 48 27	26 Feb. (57)	1 Sun.	7·0127	4084
24 Mar. (83)	0 Sat.	11 0 36	17 Mar. (76)	0 Sat.	41·6950	4085
23 Mar. (83)	1 Sun.	17 12 45	6 Mar. (66)	5 Thur.	256·0499	4086
23 Mar. (82)	2 Mon.	23 24 54	23 Feb. (54)	2 Mon.	131·7727	4087
24 Mar. (83)	4 Wed.	5 37 3	14 Mar. (73)	1 Sun.	166·4550	4088
24 Mar. (83)	5 Thur.	11 49 12	3 Mar. (62)	5 Thur.	42·1779	4089
23 Mar. (83)	6 Fri.	18 1 21	21 Mar. (81)	4 Wed.	76·8603	4090
24 Mar. (83)	1 Sun.	0 13 30	11 Mar. (70)	2 Mon.	291·2152	4091
24 Mar. (83)	2 Mon.	6 25 39	28 Feb. (59)	6 Fri.	166·9398	4092
24 Mar. (83)	3 Tues.	12 37 48	19 Mar. (78)	5 Thur.	201·6204	4093
23 Mar. (83)	4 Wed.	18 49 57	7 Mar. (67)	2 Mon.	77·3432	4094
24 Mar. (83)	6 Fri.	1 2 6	25 Feb. (56)	0 Sat.	291·6980	4095

TABLE

CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAṂVATSARA. Southern system.	JOVIAN SAṂVATSARA. Northern system.	Mean intercalated (*adhika*) lunar month.
1	2	3	3*a*	4	5	6	7	8*a*
4096	917	1052	401	169-70	994-95	28 Jaya	30 *Durmukha*	...
4097	918	1053	402	170-71	995-96	29 Manmatha	31 Hēmalamba	12 Phālguna
4098	919	1054	403	171-72	*996-97	30 Durmukha	32 Vilamba	...
4099	920	1055	404	172-73	997-98	31 Hēmalamba	33 Vikārin	...
4100	921	1056	405	173-74	998-99	32 Vilamba	34 Śārvarin	8 Kārttika
4101	922	1057	406	174-75	999-1000	33 Vikārin	35 Plava	...
4102	923	1058	407	175-76	*1000-01	34 Śārvarin	36 Śubhakṛit	...
4103	924	1059	408	176-77	1001-02	35 Plava	37 Śōbhana	5 Śrāvaṇa
4104	925	1060	409	177-78	1002-03	36 Śubhakrit	38 Krōdhin	...
4105	926	1061	410	178-79	1003-04	37 Śōbhana	39 Viśvāvasu	...
4106	927	1062	411	179-80	*1004-05	38 Krōdhin	40 Parābhava	1 Chaitra
4107	928	1063	412	180-81	1005-06	39 Viśvāvasu	41 Plavaṅga	...
4108	929	1064	413	181-82	1006-07	40 Parābhava	42 Kīlaka	10 Pausha
4109	930	1065	414	182-83	1007-08	41 Plavaṅga	43 Saumya	...
4110	931	1066	415	183-84	*1008-09	42 Kīlaka	44 Sādhārana	...
4111	932	1067	416	184-85	1009-10	43 Saumya	45 Virōdhakrit	7 Āśvina†
4112	933	1068	417	185-86	1010-11	44 Sādhārana	46 Paridhāvin	...
4113	934	1069	418	186-87	1011-12	45 Virōdhakṛit	47 Pramādin	...
4114	935	1070	419	187-88	*1012-13	46 Paridhāvin	48 Ānanda	3 Jyēshṭha
4115	936	1071	420	188-89	1013-14	47 Pramādin	49 Rākshasa	...
4116	937	1072	421	189-90	1014-15	48 Ānanda	50 Anala	12 Phālguna
4117	938	1073	422	190-91	1015-16	49 Rākshasa	51 Piṅgala	...
4118	939	1074	423	191-92	*1016-17	50 Anala	52 Kālayukta	...
4119	940	1075	424	192-93	1017-18	51 Piṅgala	53 Siddhārthin	8 Kārttika
4120	941	1076	425	193-94	1018-19	52 Kālayukta	54 Raudra	...

† See "Remarks," p. 215 above.

XC—*contd.*

COMMENCEMENT OF THE								
MEAN SOLAR YEAR.				MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.		Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*)	
13	14	17		19	20	23	1
		H. M. S.					
24 Mar. (83)	0 Sat.	7 14 15		16 Mar. (75)	6 Fri.	326·3804	4096
24 Mar. (83)	1 Sun.	13 26 24		5 Mar. (64)	3 Tues.	202 1033	4097
23 Mar. (83)	2 Mon.	19 38 33		23 Mar. (83)	2 Mon.	236·7856	4098
24 Mar. (83)	4 Wed.	1 50 42		12 Mar. (71)	6 Fri.	112·5085	4099
24 Mar. (83)	5 Thur.	8 2 51		2 Mar. (61)	4 Wed.	326 8633	4100
24 Mar. (83)	6 Fri.	14 15 0		20 Mar. (79)	2 Mon.	22·9136	4101
23 Mar. (83)	0 Sat.	20 27 9		9 Mar. (69)	0 Sat.	237·2685	4102
24 Mar. (83)	2 Mon.	2 39 18		26 Feb. (57)	4 Wed.	112·9914	4103
24 Mar. (83)	3 Tues.	8 51 27		17 Mar. (76)	3 Tues.	147·6737	4104
24 Mar. (83)	4 Wed.	15 3 36		6 Mar. (65)	0 Sat.	23·3966	4105
23 Mar. (83)	5 Thur.	21 15 45		24 Feb. (55)	5 Thur.	237·7514	4106
24 Mar. (83)	0 Sat.	3 27 54		14 Mar. (73)	4 Wed.	272·4338	4107
24 Mar. (83)	1 Sun.	9 40 3		3 Mar. (62)	1 Sun.	148·1566	4108
24 Mar. (83)	2 Mon.	15 52 12		22 Mar. (81)	0 Sat.	182·8390	4109
23 Mar. (83)	3 Tues.	22 4 21		10 Mar. (70)	4 Wed.	58·5618	4110
24 Mar. (83)	5 Thur.	4 16 30		28 Feb. (59)	2 Mon.	272·9167	4111
24 Mar. (83)	6 Fri.	10 28 39		19 Mar. (78)	1 Sun.	307·5991	4112
24 Mar. (83)	0 Sat.	16 40 48		8 Mar. (67)	5 Thur.	183·3219	4113
23 Mar. (83)	1 Sun.	22 52 57		25 Feb. (56)	2 Mon.	59·0447	4114
24 Mar. (83)	3 Tues.	5 5 6		15 Mar. (74)	1 Sun.	93·7270	4115
24 Mar. (83)	4 Wed.	11 17 15		5 Mar. (64)	6 Fri.	308·0820	4116
24 Mar. (83)	5 Thur.	17 29 24		23 Mar. (82)	4 Wed.	4·1323	4117
23 Mar. (83)	6 Fri.	23 41 33		12 Mar. (72)	2 Mon.	218 4872	4118
24 Mar. (83)	1 Sun.	5 53 42		1 Mar. (60)	6 Fri.	94·2100	4119
24 Mar. (83)	2 Mon.	12 5 51		20 Mar. (79)	5 Thur.	128·8924	4120

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4121	942	1077	426	194-95	1019-20	53 Siddhārthin	55 Durmati	
4122	943	1078	427	195-96	*1020-21	54 Raudra	56 Dundubhi	5 Śrāvaṇa
4123	944	1079	428	196-97	1021-22	55 Durmati	57 Rudhirōdgārin	...
4124	945	1080	429	197-98	1022-23	56 Dundubhi	58 Raktāksha	...
4125	946	1081	430	198-99	1023-24	57 Rudhirōdgārin	59 Krōdhana	1 Chaitra
4126	947	1082	431	199-200	*1024-25	58 Raktāksha	60 Kshaya	
4127	948	1083	432	200-01	1025-26	59 Krōdhana	1 Prabhava	10 Pausha
4128	949	1084	433	201-02	1026-27	60 Kshaya	2 Vibhava	..
4129	950	1085	434	202-03	1027-28	1 Prabhava	3 Śukla	..
4130	951	1086	435	203-04	*1028-29	2 Vibhava	4 Pramōda	6 Bhādrapada
4131	952	1087	436	204-05	1029-30	3 Śukla	5 Prajāpati	...
4132	953	1088	437	205-06	1030-31	4 Pramōda	6 Aṅgiras	
4133	954	1089	438	206-07	1031-32	5 Prajāpati	7 Śrīmukha	3 Jyēshṭha
4134	955	1090	439	207-08	*1032-33	6 Angiras	8 Bhāva	..
4135	956	1091	440	208-09	1033-34	7 Śrīmukha	9 Yuvan	11 Māgha
4136	957	1092	441	209-10	1034-35	8 Bhāva	10 Dhātri	..
4137	958	1093	442	210-11	1035-36	9 Yuvan	11 Īśvara	
4138	959	1094	443	211-12	*1036-37	10 Dhātṛi	12 Bahudhānya	8 Kārttika
4139	960	1095	444	212-13	1037-38	11 Īśvara	13 Pramāthin	..
4140	961	1096	445	213-14	1038-39	12 Bahudhānya	14 Vikrama	..
4141	962	1097	446	214-15	1039-40	13 Pramāthin	15 Vṛisha	4 Āshāḍha
4142	963	1098	447	215-16	*1040-41	14 Vikrama	16 Chitrabhānu	...
4143	964	1099	448	216-17	1041-42	15 Vṛisha	17 Subhānu	...
4144	965	1100	449	217-18	1042-43	16 Chitrabhānu	18 Tāraṇa	1 Chaitra
4145	966	1101	450	218-19	1043-44	17 Subhānu	19 Pārthiva	...

XC—*contd.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*)	
13	14	17	19	20	23	1
		H. M. S.				
24 Mar (83) . .	3 Tues. .	18 18 0	9 Mar. (68) .	2 Mon. .	4·6131	4121
24 Mar. (84) . .	5 Thur.	0 30 9	27 Feb. (58) .	0 Sat. .	218·9701	4122
24 Mar. (83) . .	6 Fri. .	6 42 18	17 Mar. (76) .	6 Fri. .	253·6525	4123
24 Mar. (83) . .	0 Sat. .	12 54 27	6 Mar. (65) .	3 Tues. .	129 3753	4124
24 Mar. (83) . .	1 Sun. .	19 6 36	23 Feb. (54) .	0 Sat. .	5·0981	4125
24 Mar. (84) . .	3 Tues. .	1 18 45	13 Mar. (73) .	6 Fri. .	39·7806	4126
24 Mar. (83) . .	4 Wed. .	7 30 54	3 Mar. (62) .	4 Wed. .	254·1354	4127
24 Mar. (83) . .	5 Thur. .	13 43 3	22 Mar. (81) .	3 Tues. .	288·8177	4128
24 Mar. (83) . .	6 Fri. .	19 55 12	11 Mar. (70) .	0 Sat. .	164·5406	4129
24 Mar (84) . .	1 Sun. .	2 7 21	28 Feb. (59) .	4 Wed. .	40·2635	4130
24 Mar. (83) . .	2 Mon. .	8 19 30	18 Mar. (77) .	3 Tues. .	74·9458	4131
24 Mar. (83) .	3 Tues. .	14 31 39	8 Mar. (67) .	1 Sun. .	289·3006	4132
24 Mar. (83) . .	4 Wed. .	20 43 48	25 Feb. (56) .	5 Thur. .	165·0235	4133
24 Mar (84) . .	6 Fri. .	2 55 57	15 Mar. (75) .	4 Wed. .	199·7059	4134
24 Mar. (83) . .	0 Sat. .	9 8 6	4 Mar. (63) .	1 Sun. .	75·4287	4135
24 Mar. (83) . . .	1 Sun. .	15 20 15	23 Mar. (82) .	0 Sat. .	110·1111	4136
24 Mar. (83) . .	2 Mon. .	21 32 24	13 Mar. (72) .	5 Thur. .	324·4660	4137
24 Mar. (84) . .	4 Wed. .	3 44 33	1 Mar. (61) .	2 Mon. .	200·1888	4138
24 Mar. (83) . .	5 Thur. .	9 56 42	20 Mar. (79) .	1 Sun.	284·8712	4139
24 Mar. (83) . .	6 Fri. .	16 8 51	9 Mar. (68) .	5 Thur. .	110·5940	4140
24 Mar. (83) . . .	0 Sat. .	22 21 0	27 Feb. (58) .	3 Tues. .	324·9489	4141
24 Mar. (84) . .	2 Mon. .	4 33 9	16 Mar. (76) .	1 Sun. .	20·9992	4142
24 Mar. (83) . .	3 Tues. .	10 45 18	6 Mar. (65) .	6 Fri. .	235·3541	4143
24 Mar. (83) . .	4 Wed.	16 57 27	23 Feb. (54) .	3 Tues. .	111·0793	4144
24 Mar. (83) . .	5 Thur.	23 9 36	14 Mar. (73) .	2 Mon. .	145·7593	4145

TABLE

CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam	A.D.	Jovian Samvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system	
1	2	3	3a	4	5	6	7	8a
4146	967	1102	451	219-20	*1044 45	18 Tārana	20 Vyaya	9 Mārgaśira
4147	968	1103	452	220 21	1045-46	19 Pārthiva	21 Sarvajit	
4148	969	1104	453	221-22	1046-47	20 Vyaya	22 Sarvadhārin	
4149	970	1105	454	222 23	1047-48	21 Sarvajit	23 Virōdhin	6 Bhādrapada
4150	971	1106	455	223-24	*1048-49	22 Sarvadhārin	24 Vikrita	
4151	972	1107	456	224-25	1049-50	23 Virōdhin	25 Khara	...
4152	973	1108	457	225-26	1050-51	24 Vikṛita	26 Nandana	3 Jyēshtha
4153	974	1109	458	226-27	1051-52	25 Khara	27 Vijaya	...
4154	975	1110	459	227-28	*1052 53	26 Nandana	28 Jaya	11 Māgha
4155	976	1111	460	228-29	1053-54	27 Vijaya	29 Manmatha	...
4156	977	1112	461	229-30	1054-55	28 Jaya	30 Durmukha	...
4157	978	1113	462	230-31	1055-56	29 Manmatha	31 Hēmalamba	8 Kārttika
4158	979	1114	463	231 32	*1056-57	30 Durmukha	32 Vilamba	...
4159	980	1115	464	232-33	1057-58	31 Hēmalamba	33 Vikārin	...
4160	981	1116	465	233-34	1058-59	32 Vilamba	34 Śārvarin	4 Āshāḍha
4161	982	1117	466	234-35	1059-60	33 Vikārin	35 Plava	...
4162	983	1118	467	235-36	*1060-61	34 Śārvarin	36 Śubhakrit	
4163	984	1119	468	236 37	1061-62	35 Plava	37 Sōbhana	1 Chaitra
4164	985	1120	469	237-38	1062 63	36 Śubhakṛit	38 Krōdhin	...
4165	986	1121	470	238 39	1063-64	37 Śōbhana	39 Viśvāvasu	9 Mārgaśira
4166	987	1122	471	239-40	*1064-65	38 Krōdhin	40 Parābhava	...
4167	988	1123	472	240-41	1065-66	39 Viśvāvasu	41 Plavaṅga	...
4168	989	1124	473	241-42	1066-67	40 Parābhava	42 Kīlaka	6 Bhādrapada
4169	990	1125	474	242-43	1067-68	41 Plavanga	43 Saumya	...
4170	991	1126	475	243-44	*1068-69	42 Kīlaka	44 Sadhārana	...

XC—*contd.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *r*, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
24 Mar. (84)	0 Sat.	5 21 45	2 Mar. (62)	6 Fri.	21·4821	4146
24 Mar. (83)	1 Sun.	11 33 54	21 Mar. (80)	5 Thur.	56·1645	4147
24 Mar. (83)	2 Mon.	17 46 3	11 Mar. (70)	3 Tues.	270·5194	4148
24 Mar. (83)	3 Tues.	23 58 12	28 Feb. (59)	0 Sat.	146·2422	4149
24 Mar. (84)	5 Thur.	6 10 21	18 Mar. (78)	6 Fri.	180·9246	4150
24 Mar. (83)	6 Fri.	12 22 30	7 Mar. (66)	3 Tues.	56·6475	4151
24 Mar. (83)	0 Sat.	18 34 39	25 Feb. (56)	1 Sun.	271·0023	4152
25 Mar. (84)	2 Mon.	0 46 48	16 Mar. (75)	0 Sat.	305·6846	4153
24 Mar. (84)	3 Tues	6 58 57	4 Mar. (64)	4 Wed.	181·4075	4154
24 Mar. (83)	4 Wed.	13 11 6	23 Mar. (82)	3 Tues.	216·0899	4155
24 Mar. (83)	5 Thur.	19 23 15	12 Mar. (71)	0 Sat.	91·8127	4156
25 Mar. (84)	0 Sat.	1 35 24	2 Mar. (61)	5 Thur.	306·1675	4157
24 Mar. (84)	1 Sun.	7 47 33	19 Mar. (79)	3 Tues.	2·2180	4158
24 Mar. (83)	2 Mon.	13 59 42	9 Mar. (68)	1 Sun.	216·5728	4159
24 Mar. (83)	3 Tues.	20 11 51	26 Feb. (57)	5 Thur.	92·2956	4160
25 Mar. (84)	5 Thur.	2 24 0	17 Mar. (76)	4 Wed.	126·9780	4161
24 Mar. (84)	6 Fri.	8 36 9	5 Mar. (65)	1 Sun.	2·7009	4162
24 Mar. (83)	0 Sat.	14 48 18	23 Feb. (54)	6 Fri.	217·0556	4163
24 Mar. (83)	1 Sun.	21 0 27	14 Mar. (73)	5 Thur.	251·7380	4164
25 Mar. (84)	3 Tues.	3 12 36	3 Mar. (62)	2 Mon.	127·4609	4165
24 Mar. (84)	4 Wed.	9 24 45	21 Mar. (81)	1 Sun.	162·1433	4166
24 Mar. (83)	5 Thur.	15 36 54	10 Mar. (69)	5 Thur.	37·8661	4167
24 Mar. (83)	6 Fri.	21 49 3	28 Feb. (59)	3 Tues.	252·2210	4168
25 Mar. (84)	1 Sun.	4 1 12	19 Mar. (78)	2 Mon.	286·9054	4169
24 Mar. (84)	2 Mon.	10 13 21	7 Mar. (67)	6 Fri.	162·6262	4170

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Vēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month
						Southern system	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4171	992	1127	476	244-45	1069-70	43 Sanmya	45 Virōdhakṛit	2 Vaiśākha
4172	993	1128	477	245-46	1070-71	44 Sādhāraṇa	46 Paridhāyin	...
4173	994	1129	478	246-47	1071-72	45 Virōdhakṛit	47 Pramādin	11 Māgha
4174	995	1130	479	247-48	*1072-73	46 Paridhāvin	48 Ānanda	...
4175	996	1131	480	248-49	1073-74	47 Pramādin	49 Rākshasa	...
4176	997	1132	481	249-50	1074-75	48 Ānanda	50 Anala†	7 Āsvina
4177	998	1133	482	250-51	1075-76	49 Rākshasa	52 *Kālayukta*	...
4178	999	1134	483	251-52	*1076-77	50 Anala	53 *Siddhārthin*	...
4179	1000	1135	484	252-53	1077-78	51 Pingala	54 *Raudra*	4 Āshādha
4180	1001	1136	485	253-54	1078-79	52 Kalayukta	55 *Durmati*	...
4181	1002	1137	486	254-55	1079 80	53 Siddhārthin	56 *Dundubhi*	12 Phālguna
4182	1003	1138	487	255-56	*1080-81	54 Raudra	57 Rudhirōdgārin	...
4183	1004	1139	488	256-57	1081-82	55 Durmati	58 Raktākshi	...
4184	1005	1140	489	257-58	1082-83	56 Dundubhi	59 Krōdhana	9 Margaśira
4185	1006	1141	490	258-59	1083-84	57 Rudhirōdgārin	60 Kshaya	...
4186	1007	1142	491	259-60	*1084 85	58 Raktākṣha	1 Prabhava	...
4187	1008	1143	492	260-61	1085 86	59 Krōdhana	2 Vibhava	6 Bhādrapada
4188	1009	1144	493	261-62	1086-87	60 Kshaya	3 Śukla	...
4189	1010	1145	494	262-63	1087 88	1 Prabhaya	4 Pramōda	...
4190	1011	1146	495	263 64	*1088-89	2 Vibhava	5 Prajāpati	2 Vaiśākha
4191	1012	1147	496	264-65	1089-90	3 Śukla	6 Angiras	...
4192	1013	1148	497	265-66	1090-91	4 Pramōda	7 Śrīmukha	11 Māgha
4193	1014	1149	498	266-67	1091-92	5 Prajāpati	8 Bhāva	...
4194	1015	1150	499	267-68	*1092-93	6 Angiras	9 Yuvan	...
4195	1016	1151	500	268 69	1093-94	7 Śrīmukha	10 Dhātri	7 Aśvina

† 51 Pingala was suppressed in the north, according to both "true" and mean systems, in *Brahma-Siddhānta* reckoning.

XC—*contd.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
24 Mar. (83)	3 Tues.	16 25 30	24 Feb. (55)	3 Tues.	38·3490	4171
24 Mar. (83)	4 Wed.	22 37 39	15 Mar. (74)	2 Mon.	73·0314	4172
25 Mar. (84)	6 Fri.	4 49 48	5 Mar. (64)	0 Sat.	287·3863	4173
24 Mar. (84)	0 Sat.	11 1 57	23 Mar. (83)	6 Fri.	322·0686	4174
24 Mar. (83)	1 Sun.	17 14 6	12 Mar. (71)	3 Tues.	197·7915	4175
24 Mar. (83)	2 Mon.	23 26 15	1 Mar. (60)	0 Sat.	73·5143	4176
25 Mar. (84)	4 Wed.	5 38 24	20 Mar. (79)	6 Fri.	108·1967	4177
24 Mar. (84)	5 Thur.	11 50 33	9 Mar. (69)	4 Wed.	322·5515	4178
24 Mar. (83)	6 Fri.	18 2 42	26 Feb. (57)	1 Sun.	198·2744	4179
25 Mar. (84)	1 Sun.	0 14 51	17 Mar. (75)	0 Sat.	232·9568	4180
25 Mar. (84)	2 Mon.	6 27 0	6 Mar. (65)	4 Wed.	108·6796	4181
24 Mar. (84)	3 Tues.	12 39 9	24 Mar. (84)	3 Tues.	143·3626	4182
24 Mar (83)	4 Wed.	18 51 18	13 Mar. (72)	0 Sat.	19·0848	4183
25 Mar. (84)	6 Fri.	1 3 27	3 Mar. (62)	5 Thur.	233·4497	4184
25 Mar. (84)	0 Sat.	7 15 36	22 Mar. (81)	4 Wed.	268·1220	4185
24 Mar. (84)	1 Sun.	13 27 45	10 Mar. (70)	1 Sun.	143·8449	4186
24 Mar. (83)	2 Mon.	19 39 54	27 Feb. (58)	5 Thur.	19·5678	4187
25 Mar. (84)	4 Wed.	1 52 3	18 Mar. (77)	4 Wed.	54·2501	4188
25 Mar. (84)	5 Thur.	8 4 12	8 Mar. (67)	2 Mon.	268·6050	4189
24 Mar. (84)	6 Fri.	14 16 21	25 Feb. (56)	6 Fri.	144·3278	4190
24 Mar. (83)	0 Sat.	20 28 30	15 Mar. (74)	5 Thur.	179·0102	4191
25 Mar. (84)	2 Mon.	2 40 39	4 Mar. (63)	2 Mon.	54·7330	4192
25 Mar. (84)	3 Tues.	8 52 48	23 Mar. (82)	1 Sun.	89·4154	4193
24 Mar. (84)	4 Wed.	15 4 57	12 Mar. (72)	6 Fri.	293·7703	4194
24 Mar. (83)	5 Thur.	21 17 6	1 Mar. (60)	3 Tues.	179·4930	4195

TABLE

CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4196	1017	1152	501	269-70	1094-95	8 Bhāva . .	11 Īśvara .	...
4197	1018	1153	502	270-71	1095-96	9 Yuvan . .	12 Bahudhānya	...
4198	1019	1154	503	271-72	*1096-97	10 Dhātri . .	13 Pramāthin .	4 Āshādha
4199	1020	1155	504	272-73	1097-98	11 Īśvara . .	14 Vikrama .	...
4200	1021	1156	505	273-74	1098-99	12 Bahudhānya .	15 Vrisha . .	12 Phālguna
4201	1022	1157	506	274-75	1099-1100	13 Pramāthin .	16 Chitrabhānu .	.
4202	1023	1158	507	275-76	*1100-01	14 Vikrama .	17 Subhānu .	...
4203	1024	1159	508	276-77	1101-02	15 Vṛisha . .	18 Tārana . .	9 Mārgaśira
4204	1025	1160	509	277-78	1102 03	16 Chitrabhānu .	19 Pārthiva .	...
4205	1026	1161	510	278-79	1103-04	17 Subhānu .	20 Vyaya . .	...
4206	1027	1162	511	279-80	*1104-05	18 Tārana . .	21 Sarvajit . .	5 Śrāvana
4207	1028	1163	512	280-81	1105 06	19 Pārthiva .	22 Sarvadhārin	...
4208	1029	1164	513	281-82	1106-07	20 Vyaya .	23 Virōdhin	...
4209	1030	1165	514	282-83	1107-08	21 Sarvajit . .	24 Vikrita . .	2 Vaiśākha
4210	1031	1166	515	283 84	*1108-09	22 Sarvadhārin .	25 Khara . .	...
4211	1032	1167	516	284 85	1109-10	23 Virōdhin .	26 Nandana .	10 Pausha
4212	1033	1168	517	285-86	1110-11	24 Vikrita . .	27 Vijaya .	...
4213	1034	1169	518	286-87	1111-12	25 Khara . .	28 Jaya .	
4214	1035	1170	519	287-88	*1112-13	26 Nandana	29 Manmatha .	7 Āśvina
4215	1036	1171	520	288-89	1113-14	27 Vijaya .	30 Durmukha	...
4216	1037	1172	521	289-90	1114-15	28 Jaya . .	31 Hēmalamba .	...
4217	1038	1173	522	290-91	1115-16	29 Manmatha .	32 Vilamba .	3 Jyēshtha
4218	1039	1174	523	291-92	*1116-17	30 Durmukha .	33 Vikārin . .	...
4219	1040	1175	524	292-93	1117-18	31 Hēmalamba .	34 Śārvarin .	12 Phālguna
4220	1041	1176	525	293-94	1118-19	32 Vilamba .	35 Plava . .	...

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*)	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84)	0 Sat.	3 29 15	20 Mar. (79)	2 Mon.	214·1755	4196
25 Mar. (84)	1 Sun.	9 41 24	9 Mar. (68)	6 Fri.	89·8983	4197
24 Mar. (84)	2 Mon.	15 53 33	27 Feb. (58)	4 Wed.	304 2531	4198
24 Mar. (83)	3 Tues.	22 5 42	16 Mar. (75)	2 Mon.	0·3035	4199
25 Mar. (84)	5 Thur.	4 17 51	6 Mar. (65)	0 Sat.	214·6584	4200
25 Mar. (84)	6 Fri.	10 30 0	25 Mar. (84)	6 Fri.	249·3408	4201
24 Mar. (84)	0 Sat.	16 42 9	13 Mar. (73)	3 Tues.	125·0637	4202
24 Mar. (83)	1 Sun.	22 54 18	2 Mar. (61)	0 Sat.	0·7865	4203
25 Mar. (84)	3 Tues.	5 6 27	21 Mar. (80)	6 Fri.	35·4689	4204
25 Mar. (84)	4 Wed.	11 18 36	11 Mar. (70)	4 Wed.	249·8237	4205
24 Mar. (84)	5 Thur.	17 30 45	28 Feb. (59)	1 Sun.	125·5466	4206
24 Mar. (83)	6 Fri.	23 42 54	18 Mar. (77)	0 Sat.	160·2289	4207
25 Mar. (84)	1 Sun.	5 55 3	7 Mar. (66)	4 Wed.	35·9518	4208
25 Mar. (84)	2 Mon.	12 7 12	25 Feb. (56)	2 Mon.	250·3066	4209
24 Mar. (84)	3 Tues.	18 19 21	15 Mar. (75)	1 Sun.	284·9889	4210
25 Mar. (84)	5 Thur.	0 31 30	4 Mar. (63)	5 Thur.	160·7118	4211
25 Mar. (84)	6 Fri.	6 43 39	23 Mar. (82)	4 Wed.	195·3942	4212
25 Mar. (84)	0 Sat.	12 55 48	12 Mar. (71)	1 Sun.	71·1171	4213
24 Mar. (84)	1 Sun.	19 7 57	1 Mar. (61)	6 Fri.	285·4718	4214
25 Mar. (84)	3 Tues.	1 20 6	20 Mar. (79)	5 Thur.	320 1543	4215
25 Mar. (84)	4 Wed.	7 32 15	9 Mar. (68)	2 Mon.	195·8771	4216
25 Mar. (84)	5 Thur.	13 44 24	26 Feb. (57)	6 Fri.	71 5999	4217
24 Mar. (84)	6 Fri.	19 56 33	16 Mar. (76)	5 Thur.	106 2823	4218
25 Mar. (84)	1 Sun.	2 8 42	6 Mar. (65)	3 Tues.	320·6372	4219
25 Mar (84)	2 Mon.	8 20 51	24 Mar. (83)	1 Sun.	16·6876	4220

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4221	1042	1177	526	294-95	1119-20	33 Vikārin . .	36 Śubhakṛit .	...
4222	1043	1178	527	295 96	*1120 21	34 Śārvarin .	37 Śōbhana . .	8 Kārttika
4223	1044	1179	528	296-97	1121-22	35 Plava . . .	38 Krōdhin . .	...
4224	1045	1180	529	297-98	1122-23	36 Śubhakrit .	39 Viśvāvasu .	...
4225	1046	1181	530	298-99	1123-24	37 Śōbhana . .	40 Parābhava .	5 Śrāvana
4226	1047	1182	531	299-300	*1124-25	38 Krōdhin . .	41 Plavaṅga .	...
4227	1048	1183	532	300-01	1125-26	39 Viśvāvasu .	42 Kīlaka . .	...
4228	1049	1184	533	301-02	1126-27	40 Parābhava .	43 Saumya . .	2 Vaiśākha
4229	1050	1185	534	302-03	1127-28	41 Plavaṅga .	44 Sādhārana .	...
4230	1051	1186	535	303-04	*1128-29	42 Kīlaka . .	45 Virōdhakṛit .	10 Pausha
4231	1052	1187	536	304-05	1129-30	43 Saumya . .	46 Paridhāvin .	...
4232	1053	1188	537	305-06	1130-31	44 Sādhāraṇa .	47 Pramādin .	...
4233	1054	1189	538	306-07	1131-32	45 Virōdhakṛit .	48 Ānanda . .	7 Āśvina
4234	1055	1190	539	307-08	*1132-33	46 Paridhāvin .	49 Rākshasa .	...
4235	1056	1191	540	308-09	1133-34	47 Pramādin .	30 Anala . .	...
4236	1057	1192	541	309-10	1134-35	48 Ānanda . .	51 Piṅgala . .	3 Jyēshṭha
4237	1058	1193	542	310-11	1135-36	49 Rākshasa . .	52 Kālayukta .	...
4238	1059	1194	543	311-12	*1136-37	50 Anala . .	53 Siddhārthin .	12 Phālguna
4239	1060	1195	544	312-13	1137-38	51 Piṅgala . .	54 Raudra . .	...
4240	1061	1196	545	313-14	1138-39	52 Kālayukta .	55 Durmati . .	...
4241	1062	1197	546	314-15	1139-40	53 Siddhārthin .	56 Dundubhi .	8 Kārttika
4242	1063	1198	547	315-16	*1140-41	54 Raudra . .	57 Rudhirōdgārin .	...
4243	1064	1199	548	316-17	1141-42	55 Durmati . .	58 Raktāksha .	...
4244	1065	1200	549	317-18	1142-43	56 Dundubhi . .	59 Krōdhana .	5 Śrāvaṇa
4245	1066	1201	550	318-19	1143-44	57 Rudhirōdgārin .	60 Kshaya . .	...

XC—*contd.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84)	3 Tues.	14 33 0	14 Mar. (73)	6 Fri.	231·0424	4221
24 Mar. (84)	4 Wed.	20 45 9	2 Mar. (62)	3 Tues.	106·7652	4222
25 Mar. (84)	6 Fri.	2 57 18	21 Mar. (80)	2 Mon.	141·4477	4223
25 Mar. (84)	0 Sat.	9 9 27	10 Mar. (69)	6 Fri.	17·1704	4224
25 Mar. (84)	1 Sun.	15 21 36	28 Feb. (59)	4 Wed.	231·5253	4225
24 Mar. (84)	2 Mon.	21 33 45	18 Mar. (78)	3 Tues.	266·2077	4226
25 Mar. (84)	4 Wed.	3 45 54	7 Mar. (66)	0 Sat.	141·9306	4227
25 Mar. (84)	5 Thurs.	9 58 3	24 Feb. (55)	1 Wed.	17·6533	4228
25 Mar. (84)	6 Fri.	16 10 12	15 Mar. (74)	3 Tues.	52·3357	4229
24 Mar. (84)	0 Sat.	22 22 21	4 Mar. (64)	1 Sun.	266·6906	4230
25 Mar. (84)	2 Mon.	4 34 30	23 Mar. (82)	0 Sat.	301·3729	4231
25 Mar. (84)	3 Tues.	10 46 39	12 Mar. (71)	4 Wed.	177·0958	4232
25 Mar. (84)	4 Wed.	16 58 48	1 Mar. (60)	1 Sun.	52·8186	4233
24 Mar. (84)	5 Thurs.	23 10 57	19 Mar. (79)	0 Sat.	87·5011	4234
25 Mar. (84)	0 Sat.	5 23 6	9 Mar. (68)	5 Thurs.	301·8558	4235
25 Mar. (84)	1 Sun.	11 35 15	26 Feb. (57)	2 Mon.	177·5787	4236
25 Mar. (84)	2 Mon.	17 47 24	17 Mar. (76)	1 Sun.	212·2611	4237
24 Mar. (84)	3 Tues.	23 59 33	5 Mar. (65)	5 Thurs.	87·9840	4238
25 Mar. (84)	5 Thurs.	6 11 42	24 Mar. (83)	4 Wed.	122·6663	4239
25 Mar. (84)	6 Fri.	12 23 51	13 Mar. (72)	1 Sun.	9998·3892 §	4240
25 Mar. (84)	0 Sat.	18 36 0	3 Mar. (62)	6 Fri.	212·7440	4241
25 Mar. (85)	2 Mon.	0 48 9	21 Mar. (81)	5 Thurs.	247·4264	4242
25 Mar. (84)	3 Tues.	7 0 18	10 Mar. (69)	2 Mon.	123·0492	4243
25 Mar. (84)	4 Wed.	13 12 27	27 Feb. (58)	6 Fri.	9998·8721 §	4244
25 Mar. (84)	5 Thurs.	19 24 36	18 Mar. (77)	5 Thurs.	33·5545	4245

§ Chaitra śukla 1 was suppressed.

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAṂVATSARA. Southern system.	JOVIAN SAṂVATSARA. Northern system.	Mean intercalated (*adhika*) lunar month.
1	2	3	3*a*	4	5	6	7	8*a*
4246	1067	1202	551	319-20	*1144-45	58 Raktāksha .	1 Prabhava .	...
4247	1068	1203	552	320-21	1145-46	59 Krōdhana .	2 Vibhava . .	1 Chaitra .
4248	1069	1204	553	321-22	1146-47	60 Kshaya . .	3 Śukla . .	...
4249	1070	1205	554	322-23	1147-48	1 Prabhava .	4 Pramōda .	10 Pausha .
4250	1071	1206	555	323-24	*1148-49	2 Vibhava . .	5 Prajāpati .	...
4251	1072	1207	556	324-25	1149-50	3 Śukla . .	6 Aṅgiras . .	...
4252	1073	1208	557	325-26	1150-51	4 Pramōda .	7 Śrīmukha .	6 Bhādrapada .
4253	1074	1209	558	326-27	1151-52	5 Prajāpati .	8 Bhāva . .	...
4254	1075	1210	559	327-28	*1152-53	6 Angiras . .	9 Yuvan . .	...
4255	1076	1211	560	328-29	1153-54	7 Śrīmukha .	10 Dhātṛi . .	3 Jyēshṭha .
4256	1077	1212	561	329-30	1154-55	8 Bhāva . .	11 Īśvara . .	...
4257	1078	1213	562	330-31	1155-56	9 Yuvan . .	12 Bahudhānya .	11 Māgha .
4258	1079	1214	563	331-32	*1156-57	10 Dhātṛi . .	13 Pramāthin .	...
4259	1080	1215	564	332-33	1157-58	11 Īśvara . .	14 Vikrama .	...
4260	1081	1216	565	333-34	1158-59	12 Bahudhānya .	15 Vṛisha . .	8 Kārttika .
4261	1082	1217	566	334-35	1159-60	13 Pramāthin .	16 Chitrabhānu† .	...
4262	1083	1218	567	335-36	*1160-61	14 Vikrama .	18 *Tāraṇa* . .	...
4263	1084	1219	568	336-37	1161-62	15 Vṛisha . .	19 *Pārthiva* .	5 Śrāvaṇa .
4264	1085	1220	569	337-38	1162-63	16 Chitrabhānu .	20 *Vyaya* . .	...
4265	1086	1221	570	338-39	1163-64	17 Subhānu .	21 *Sarvajit* . .	...
4266	1087	1222	571	339-40	*1164-65	18 Tāraṇa . .	22 *Sarvadhārin* .	1 Chaitra .
4267	1088	1223	572	340-41	1165-66	19 Pārthiva .	23 Virōdhin .	...
4268	1089	1224	573	341-42	1166-67	20 Vyaya . .	24 Vikṛita . .	10 Pausha .
4269	1090	1225	574	342-43	1167-68	21 Sarvajit . .	25 Khara . .	...
4270	1091	1226	575	343-44	*1168-69	22 Sarvadhārin .	26 Nandana .	...

† 17 Subhānu was suppressed in the north by the *Brahma-Siddhānta*, both in true and mean reckoning.

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COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here $e = t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (85) . .	0 Sat. .	1 36 45	7 Mar. (67) .	3 Tues. .	217·9093	4246
25 Mar. (84) . .	1 Sun. .	7 48 54	24 Feb. (55) .	0 Sat. .	123·6321	4247
25 Mar. (84) . .	2 Mon. .	14 1 3	15 Mar. (74) .	6 Fri. .	158·3145	4248
25 Mar. (84) . .	3 Tues. .	20 13 12	4 Mar. (63) .	3 Tues. .	34·0373	4249
25 Mar. (85) . .	5 Thurs. .	2 25 21	22 Mar. (82) .	2 Mon. .	68·7197	4250
25 Mar. (84) . .	6 Fri. .	8 37 30	12 Mar. (71) .	0 Sat. .	283·0746	4251
25 Mar. (84) . .	0 Sat. .	14 49 39	1 Mar. (60) .	4 Wed. .	158·7974	4252
25 Mar. (84) . .	1 Sun. .	21 1 48	20 Mar. (79) .	3 Tues. .	193·4798	4253
25 Mar. (85) . .	3 Tues. .	3 13 57	8 Mar. (68) .	0 Sat. .	69·2026	4254
25 Mar. (84) . .	4 Wed. .	9 26 6	26 Feb. (57) .	5 Thur. .	283·5575	4255
25 Mar. (84) . .	5 Thur. .	15 38 15	17 Mar. (76) .	4 Wed. .	318·2398	4256
25 Mar. (84) . .	6 Fri. .	21 50 24	6 Mar. (65) .	1 Sun. .	193·9627	4257
25 Mar. (85) . .	1 Sun. .	4 2 33	24 Mar. (84) .	0 Sat. .	228·6451	4258
25 Mar. (84) . .	2 Mon. .	10 14 42	13 Mar. (72) .	4 Wed. .	104·3680	4259
25 Mar. (84) . .	3 Tues. .	16 26 51	3 Mar. (62) .	2 Mon. .	318·7227	4260
25 Mar. (84) . .	4 Wed. .	22 39 0	21 Mar. (80) .	0 Sat. .	14·7731	4261
25 Mar. (85) . .	6 Fri. .	4 51 9	10 Mar. (70) .	5 Thur. .	229·1280	4262
25 Mar. (84) . .	0 Sat. .	11 3 18	27 Feb. (58) .	2 Mon. .	104·8508	4263
25 Mar. (84) . .	1 Sun. .	17 15 27	18 Mar. (77) .	1 Sun. .	139·5332	4264
25 Mar. (84) . .	2 Mon. .	23 27 36	7 Mar. (66) .	5 Thur. .	15·2561	4265
25 Mar. (85) . .	4 Wed. .	5 39 45	25 Feb. (56) .	3 Tues. .	229·6109	4266
25 Mar. (84) . .	5 Thur. .	11 51 54	15 Mar. (74) .	2 Mon. .	264·2932	4267
25 Mar. (84) . .	6 Fri. .	18 4 3	4 Mar. (63) .	6 Fri. .	140·0161	4268
26 Mar. (85) . .	1 Sun. .	0 16 12	23 Mar. (82) .	5 Thur. .	174·6985	4269
25 Mar. (85) . .	2 Mon. .	6 28 21	11 Mar. (71) .	2 Mon. .	50·4213	4270

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAṂVATSARA. Southern system.	JOVIAN SAṂVATSARA. Northern system.	Méan inte calated (*adhika*) lunar month.
1	2	3	3*a*	4	5	6	7	8*a*
4271	1092	1227	576	344-45	1169-70	23 Virōdhin .	27 Vijaya . .	6 Bhādrapada .
4272	1093	1228	577	345-46	1170-71	24 Vikṛita . .	28 Jaya . .	...
4273	1094	1229	578	346-47	1171-72	25 Khara . .	29 Manmatha .	...
4274	1095	1230	579	347-48	*1172-73	26 Nandana .	30 Durmukha .	3 Jyēshṭha .
4275	1096	1231	580	348-49	1173-74	27 Vijaya . .	31 Hēmalamba .	..
4276	1097	1232	581	349-50	1174-75	28 Jaya . .	32 Vilamba . .	11 Māgha .
4277	1098	1233	582	350-51	1175-76	29 Manmatha .	33 Vikārin . .	...
4278	1099	1234	583	351-52	*1176-77	30 Durmukha .	34 Śārvarin .	..
4279	1100	1235	584	352-53	1177-78	31 Hēmalamba .	35 Plava . .	8 Kārttika .
4280	1101	1236	585	353-54	1178-79	32 Vilamba .	36 Śubhakṛit .	.
4281	1102	1237	586	354-55	1179-80	33 Vikārin . .	37 Śōbhana .	...
4282	1103	1238	587	355-56	*1180 81	34 Śārvarin .	38 Krōdhin . .	4 Āshāḍha .
4283	1104	1239	588	356-57	1181-82	35 Plava . .	39 Viśvāvasu .	...
4284	1105	1240	589	357-58	1182-83	36 Śubhakrit .	40 Parābhava .	...
4285	1106	1241	590	358-59	1183-84	37 Śōbhana . .	41 Plavaṅga .	1 Chaitra .
4286	1107	1242	591	359-60	*1184-85	38 Krōdhin .	42 Kīlaka . .	...
4287	1108	1243	592	360-61	1185-86	39 Viśvāvasu .	43 Saumya .	9 Margaśira .
4288	1109	1244	593	361-62	1186-87	40 Parābhava .	44 Sādhāraṇa .	...
4289	1110	1245	594	362-63	1187-88	41 Plavaṅga .	45 Virōdhakṛit .	...
4290	1111	1246	595	363-64	*1188-89	42 Kīlaka . .	46 Paridhāvin .	6 Bhādrapada .
4291	1112	1247	596	364-65	1189-90	43 Saumya . .	47 Pramādin .	...
4292	1113	1248	597	365-66	1190-91	44 Sādhāraṇa .	48 Ānanda .	...
4293	1114	1249	598	366-67	1191-92	45 Virōdhakṛit .	49 Rākshasa .	2 Vaisākha .
4294	1115	1250	599	367-68	*1192-93	46 Paridhāvin .	50 Anala .	...
4295	1116	1251	600	368-69	1193-94	47 Pramādin .	51 Piṅgala . .	11 Māgha .

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*)	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84)	3 Tues.	12 40 30	1 Mar. (60)	0 Sat.	264·7762	4271
25 Mar. (84)	4 Wed.	18 52 39	20 Mar. (79)	6 Fri.	299·4586	4272
26 Mar. (85)	6 Fri.	1 4 48	9 Mar. (68)	3 Tues.	175·1815	4273
25 Mar. (85)	0 Sat.	7 16 57	26 Feb. (57)	0 Sat.	50·9042	4274
25 Mar. (84)	1 Sun.	13 29 6	16 Mar. (75)	6 Fri.	85·5866	4275
25 Mar. (84)	2 Mon.	19 41 15	6 Mar. (65)	4 Wed.	299·9415	4276
26 Mar. (85)	4 Wed.	1 53 24	24 Mar. (83)	2 Mon.	9995·9918 §	4277
25 Mar. (85)	5 Thur.	8 5 33	13 Mar. (73)	0 Sat.	210·3467	4278
25 Mar. (84)	6 Fri.	14 17 42	2 Mar. (61)	4 Wed.	86·0695	4279
25 Mar. (84)	0 Sat.	20 29 51	21 Mar. (80)	3 Tues.	120·7519	4280
26 Mar. (85)	2 Mon.	2 42 0	10 Mar. (69)	0 Sat.	9996·4747 §	4281
25 Mar. (85)	3 Tues.	8 54 9	28 Feb. (59)	5 Thur.	210·8296	4282
25 Mar. (84)	4 Wed.	15 6 18	18 Mar. (77)	4 Wed.	245·5120	4283
25 Mar. (84)	5 Thur.	21 18 27	7 Mar. (66)	1 Sun.	121·2349	4284
26 Mar (85)	0 Sat.	3 30 36	24 Feb. (55)	5 Thur.	9996·9576 §	4285
25 Mar. (85)	1 Sun.	9 42 45	14 Mar. (74)	4 Wed.	31·0400	4286
25 Mar. (84)	2 Mon.	15 54 54	4 Mar. (63)	2 Mon.	245·9949	4287
25 Mar. (84)	3 Tues.	22 7 3	23 Mar. (82)	1 Sun.	280·6772	4288
26 Mar. (85)	5 Thur.	4 19 12	12 Mar. (71)	5 Thur.	156·4061	4289
25 Mar. (85)	6 Fri.	10 31 21	29 Feb. (60)	2 Mon.	32·1230	4290
25 Mar. (84)	0 Sat.	16 43 30	19 Mar. (78)	1 Sun.	66·8054	4291
25 Mar. (84)	1 Sun.	22 55 39	9 Mar. (68)	6 Fri.	281·1602	4292
26 Mar. (85)	3 Tues.	5 7 48	26 Feb. (57)	3 Tues.	156·8830	4293
25 Mar. (85)	4 Wed.	11 19 57	16 Mar. (76)	2 Mon.	191·5654	4294
25 Mar. (84)	5 Thur.	17 32 6	5 Mar. (64)	6 Fri.	67·2882	4295

§ Chaitra śukla 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated (*adhika*) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4296	1117	1252	601	369-70	1194-95	48 Ānanda . .	52 Kālayukta .	...
4297	1118	1253	602	370-71	1195-96	49 Rākshasa .	53 Siddhā thin	...
4298	1119	1254	603	371-72	*1196-97	50 Anala . .	54 Raudra	8 Kārttika ‡
4299	1120	1255	604	372-73	1197-98	51 Pingala . .	55 Durmati	...
4300	1121	1256	605	373-74	1198-99	52 Kālayukta .	56 Dundubhi .	...
4301	1122	1257	606	374-75	1199-1200	53 Siddhārthin .	57 Rudhirōdgārin .	4 Āshādha
4302	1123	1258	607	375-76	*1200-01	54 Raudra . .	58 Raktāksha .	
4303	1124	1259	608	376-77	1201-02	55 Durmati .	59 Krōdhana	
4304	1125	1260	609	377-78	1202-03	56 Dundubhi .	60 Kshaya . .	1 Chaitra .
4305	1126	1261	610	378-79	1203-04	57 Rudhirōdgārin	1 Prabhava .	...
4306	1127	1262	611	379-80	*1204-05	58 Raktāksha .	2 Vibhava .	9 Mārgaśira .
4307	1128	1263	612	380-81	1205-06	59 Krōdhana .	3 Sukla . .	...
4308	1129	1264	613	381-82	1206-07	60 Kshaya . .	4 Pramōda	...
4309	1130	1265	614	382-83	1207-08	1 Prabhava .	5 Prajāpati	6 Bhādrapada
4310	1131	1266	615	383-84	*1208-09	2 Vibhava .	6 Angiras . .	...
4311	1132	1267	616	384-85	1209-10	3 Śukla . .	7 Śrīmukha .	...
4312	1133	1268	617	385-86	1210-11	4 Pramōda .	8 Bhāva .	2 Vaiśākha
4313	1134	1269	618	386-87	1211-12	5 Prajāpati .	9 Yuvan . . .	...
4314	1135	1270	619	387-88	*1212-13	6 Aṅgiras . .	10 Dhātṛi . .	11 Māgha .
4315	1136	1271	620	388-89	1213-14	7 Śrīmukha .	11 Īśvara .	...
4316	1137	1272	621	389-90	1214-15	8 Bhāva . .	12 Bahudhānya .	...
4317	1138	1273	622	390-91	1215-16	9 Yuvan . .	13 Pramāthin .	7 Āśvina .
4318	1139	1274	623	391-92	*1216-17	10 Dhātṛi . .	14 Vikrama	...
4319	1140	1275	624	392-93	1217-18	11 Īśvara . .	15 Vṛisha . .	...
4320	1141	1276	625	393-94	1218-19	12 Bahudhānya .	16 Chitrabhānu .	4 Ashādha .

‡ See "Remarks," p. 215 above.

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COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84)	6 Fri.	23 44 15	24 Mar. (83)	5 Thur.	101·9706	4296
26 Mar. (85)	1 Sun.	5 56 24	14 Mar. (73)	3 Tues.	316·3255	4297
25 Mar. (85)	2 Mon.	12 8 33	2 Mar. (62)	0 Sat.	192·0482	4298
25 Mar. (84)	3 Tues.	18 20 42	21 Mar. (80)	6 Fri.	226·7307	4299
26 Mar. (85)	5 Thur.	0 32 51	10 Mar. (69)	3 Tues.	102·4535	4300
26 Mar. (85)	6 Fri.	6 45 0	28 Feb. (59)	1 Sun.	316·8083	4301
25 Mar. (85)	0 Sat.	12 57 9	17 Mar. (77)	6 Fri.	12·8587	4302
25 Mar. (84)	1 Sun.	19 9 18	7 Mar. (66)	4 Wed.	227·2136	4303
26 Mar. (85)	3 Tues.	1 21 27	24 Feb. (55)	1 Sun.	102·9363	4304
26 Mar. (85)	4 Wed.	7 33 36	15 Mar. (74)	0 Sat.	137·6188	4305
25 Mar. (85)	5 Thur.	13 45 45	3 Mar. (63)	4 Wed.	13 3416	4306
25 Mar. (84)	6 Fri.	19 57 54	22 Mar. (81)	3 Tues.	48·0239	4307
26 Mar. (85)	1 Sun.	2 10 3	12 Mar. (71)	1 Sun.	262·3788	4308
26 Mar. (85)	2 Mon.	8 22 12	1 Mar. (60)	5 Thur.	138·1017	4309
25 Mar. (85)	3 Tues.	14 34 21	19 Mar. (79)	4 Wed.	172·7840	4310
25 Mar. (84)	4 Wed.	20 46 30	8 Mar. (67)	1 Sun.	48·5069	4311
26 Mar. (85)	6 Fri.	2 58 39	26 Feb. (57)	6 Fri.	262·8617	4312
26 Mar. (85)	0 Sat.	9 10 48	17 Mar. (76)	5 Thur.	297 5441	4313
25 Mar. (85)	1 Sun.	15 22 57	5 Mar. (65)	2 Mon.	173·2669	4314
25 Mar. (84)	2 Mon.	21 35 6	24 Mar. (83)	1 Sun.	207·9493	4315
26 Mar. (85)	4 Wed.	3 47 15	13 Mar. (72)	5 Thur.	83·6722	4316
26 Mar. (85)	5 Thur.	9 59 24	3 Mar. (62)	3 Tues.	298·0269	4317
25 Mar. (85)	6 Fri.	16 11 33	21 Mar. (81)	2 Mon.	332·7094	4318
25 Mar. (84)	0 Sat.	22 23 42	10 Mar. (69)	6 Fri.	208·4322	4319
26 Mar. (85)	2 Mon.	4 35 51	27 Feb. (58)	3 Tues.	84·1551	4320

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4321	1142	1277	626	394-95	1219-20	13 Pramāthin .	17 Subhānu .	...
4322	1143	1278	627	395-96	*1220-21	14 Vikrama .	18 Tārana . .	12 Phālguna .
4323	1144	1279	628	396-97	1221-22	15 Vrisha . .	19 Pā thiva .	...
4324	1145	1280	629	397-98	1222-23	16 Chitrabhānu .	20 Vyaya . .	...
4325	1146	1281	630	398-99	1223-24	17 Subhānu .	21 Sarvajit . .	9 Mārgaśira
4326	1147	1282	631	399-400	*1224-25	18 Tārana . .	22 Sarvadhārin .	...
4327	1148	1283	632	400-01	1225-26	19 Pārthiva .	23 Virōdhin .	...
4328	1149	1284	633	401-02	1226-27	20 Vyaya . .	24 Vikṛita . .	5 Śrāvaṇa .
4329	1150	1285	634	402-03	1227-28	21 Sarvajit . .	25 Khara . .	...
4330	1151	1286	635	403-04	*1228-29	22 Sarvadhārin .	26 Nandana .	...
4331	1152	1287	636	404-05	1229-30	23 Virōdhin .	27 Vijaya . .	2 Vaiśākha .
4332	1153	1288	637	405-06	1230-31	24 Vikṛita . .	28 Jaya . .	...
4333	1154	1289	638	406-07	1231-32	25 Khara . .	29 Manmatha .	10 Pausha .
4334	1155	1290	639	407-08	*1232-33	26 Nandana . .	30 Durmukha .	...
4335	1156	1291	640	408-09	1233-34	27 Vijaya . .	31 Hēmalamba .	...
4336	1157	1292	641	409-10	1234-35	28 Jaya . .	32 Vilamba .	7 Āśvina .
4337	1158	1293	642	410-11	1235-36	29 Manmatha .	33 Vikārin . .	...
4338	1159	1294	643	411-12	*1236-37	30 Durmukha .	34 Śārvarin . .	...
4339	1160	1295	644	412-13	1237-38	31 Hēmalamba .	35 Plava . .	4 Āshāḍha .
4340	1161	1296	645	413-14	1238-39	32 Vilamba . .	36 Śubhakṛit .	...
4341	1162	1297	646	414-15	1239-40	33 Vikārin . .	37 Śōbhana . .	12 Phālguna .
4342	1163	1298	647	415-16	*1240-41	34 Śārvarin . .	38 Krōdhin .	...
4343	1164	1299	648	416-17	1241-42	35 Plava . .	39 Viśvāvasu .	..
4344	1165	1300	649	417-18	1242-43	36 Śubhakrit .	40 Parābhava .	9 Mārgaśira .
4345	1166	1301	650	418-19	1243-44	37 Śōbhana . .	41 Plavaṅga .	...

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*)	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (85)	3 Tues.	10 48 0	18 Mar. (77)	2 Mon.	118·8374	4321
25 Mar. (85)	4 Wed.	17 0 9	7 Mar. (67)	0 Sat.	333·1923	4322
25 Mar. (84)	5 Thur.	23 12 18	25 Mar. (84)	5 Thur.	29·2427	4323
26 Mar. (85)	0 Sat.	5 24 27	15 Mar. (74)	3 Tues.	243·5975	4324
26 Mar. (85)	1 Sun.	11 36 36	4 Mar. (63)	0 Sat.	119·3203	4325
25 Mar. (85)	2 Mon.	17 48 45	22 Mar. (82)	6 Fri.	154·0027	4326
26 Mar. (85)	4 Wed.	0 0 54	11 Mar. (70)	3 Tues.	29·7256	4327
26 Mar. (85)	5 Thur.	6 13 3	1 Mar. (60)	1 Sun.	244·0804	4328
26 Mar. (85)	6 Fri.	12 25 12	20 Mar. (79)	0 Sat.	278·7628	4329
25 Mar. (85)	0 Sat.	18 37 21	8 Mar. (68)	4 Wed.	154·4857	4330
26 Mar. (85)	2 Mon.	0 49 30	25 Feb. (56)	1 Sun.	30·2084	4331
26 Mar. (85)	3 Tues.	7 1 39	16 Mar. (75)	0 Sat.	64·8908	4332
26 Mar. (85)	4 Wed.	13 13 48	6 Mar. (65)	5 Thur.	279·2457	4333
25 Mar. (85)	5 Thur.	19 25 57	24 Mar. (84)	4 Wed.	313·9281	4334
26 Mar. (85)	0 Sat.	1 38 6	13 Mar. (72)	1 Sun.	189·6569	4335
26 Mar. (85)	1 Sun.	7 50 15	2 Mar. (61)	5 Thur.	65·3738	4336
26 Mar. (85)	2 Mon.	14 2 24	21 Mar. (80)	4 Wed.	100·0562	4337
25 Mar. (85)	3 Tues.	20 14 33	10 Mar. (70)	2 Mon.	314·4110	4338
26 Mar. (85)	5 Thur.	2 26 42	27 Feb. (58)	6 Fri.	190·1338	4339
26 Mar. (85)	6 Fri.	8 38 51	18 Mar. (77)	5 Thur.	224·8162	4340
26 Mar. (85)	0 Sat.	14 51 0	7 Mar. (66)	2 Mon.	100·5391	4341
25 Mar. (85)	1 Sun.	21 3 9	25 Mar. (85)	1 Sun.	135·2214	4342
26 Mar. (85)	3 Tues.	3 15 18	14 Mar. (73)	5 Thur.	10·9443	4343
26 Mar. (85)	4 Wed.	9 27 27	4 Mar. (63)	3 Tues.	225·2991	4344
26 Mar. (85)	5 Thur.	15 39 36	23 Mar. (82)	2 Mon.	259·9815	4345

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4346	1167	1302	651	419-20	*1244-45	38 Krōdhin	42 Kīlaka†	...
4347	1168	1303	652	420-21	1245-46	39 Viśvāvasu	44 *Sādhārana*	5 Śrāvaṇa
4348	1169	1304	653	421-22	1246-47	40 Parābhava	45 *Virōdhakrit*	...
4349	1170	1305	654	422-23	1247-48	41 Plavaṅga	46 *Paridhāvin*	...
4350	1171	1306	655	423-24	*1248-49	42 Kīlaka	47 *Pramādin*	2 Vaiśākha
4351	1172	1307	656	424-25	1249-50	43 Saumya	48 *Ānanda*	...
4352	1173	1308	657	425-26	1250-51	44 Sādhāraṇa	49 *Rākshasa*	10 Pausha
4353	1174	1309	658	426-27	1251-52	45 Virōdhakṛit	50 Anala	...
4354	1175	1310	659	427-28	*1252-53	46 Paridhāvin	51 Piṅgala	...
4355	1176	1311	660	428-29	1253-54	47 Pramādin	52 Kālayukta	7 Āśvina
4356	1177	1312	661	429-30	1254-55	48 Ānanda	53 Siddhārthin	...
4357	1178	1313	662	430-31	1255-56	49 Rākshasa	54 Raudra	...
4358	1179	1314	663	431-32	*1256-57	50 Anala	55 Durmati	3 Jyēshṭha
4359	1180	1315	664	432-33	1257-58	51 Piṅgala	56 Dundubhi	...
4360	1181	1316	665	433-34	1258-59	52 Kālayukta	57 Rudhirōdgārin	12 Phālguna
4361	1182	1317	666	434-35	1259-60	53 Siddhārthin	58 Raktākṣha	...
4362	1183	1318	667	435-36	*1260-61	54 Raudra	59 Krōdhana	...
4363	1184	1319	668	436-37	1261-62	55 Durmati	60 Kshaya	8 Kārttika
4364	1185	1320	669	437-38	1262-63	56 Dundubhi	1 Prabhava	...
4365	1186	1321	670	438-39	1263-64	57 Rudhirōdgārin	2 Vibhava	...
4366	1187	1322	671	439-40	*1264-65	58 Raktāksha	3 Śukla	5 Śrāvaṇa
4367	1188	1323	672	440-41	1265-66	59 Krōdhana	4 Pramōda	...
4368	1189	1324	673	441-42	1266-67	60 Kshaya	5 Prajāpati	...
4369	1190	1325	674	442-43	1267-68	1 Prabhava	6 Aṅgiras	1 Chaitra
4370	1191	1326	675	443-44	*1268-69	2 Vibhava	7 Śrīmukha	...

† 43 Saumya was suppressed in the north by the mean system. By the "true" system K.Y. 4346 (expired), A.D. 1245-46, was called "Saumya," 44 Sadhārana being suppressed. The next year was 45 Virōdhakṛit by both systems of reckoning.

XC—*contd.*

COMMENCEMENT OF THE									Kali.
MEAN SOLAR YEAR.					MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti			Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).		
13	14	17			19	20	23		1
		H.	M.	S.					
25 Mar. (85)	6 Fri.	21	51	45	11 Mar. (71)	6 Fri.	135·7043		4346
26 Mar. (85)	1 Sun.	4	3	54	28 Feb. (59)	3 Tues.	11·4272		4347
26 Mar. (85)	2 Mon.	10	16	3	19 Mar. (78)	2 Mon.	46·1096		4348
26 Mar. (85)	3 Tues.	16	28	12	9 Mar. (68)	0 Sat.	260·4644		4349
25 Mar. (85)	4 Wed.	22	40	21	26 Feb. (57)	4 Wed.	136·1872		4350
26 Mar. (85)	6 Fri.	4	52	30	16 Mar. (75)	3 Tues.	170·8696		4351
26 Mar. (85)	0 Sat.	11	4	39	5 Mar. (64)	0 Sat.	46·5925		4352
26 Mar. (85)	1 Sun.	17	16	48	24 Mar. (83)	6 Fri.	81·2748		4353
25 Mar. (85)	2 Mon.	23	28	57	13 Mar. (73)	4 Wed.	295·6297		4354
26 Mar. (85)	4 Wed.	5	41	6	2 Mar. (61)	1 Sun.	171·3526		4355
26 Mar. (85)	5 Thur.	11	53	15	21 Mar. (80)	0 Sat.	206·0349		4356
26 Mar. (85)	6 Fri.	18	5	24	10 Mar. (69)	4 Wed.	81·7577		4357
26 Mar. (86)	1 Sun.	0	17	33	28 Feb. (59)	2 Mon.	236·1126		4358
26 Mar. (85)	2 Mon.	6	29	42	18 Mar. (77)	1 Sun.	320·7950		4359
26 Mar. (85)	3 Tues.	12	41	51	7 Mar. (66)	5 Thur.	206·5178		4360
26 Mar. (85)	4 Wed.	18	54	0	26 Mar. (85)	4 Wed.	241·2002		4361
26 Mar. (86)	6 Fri.	1	6	9	14 Mar. (74)	1 Sun.	116·9231		4362
26 Mar. (85)	0 Sat.	7	18	18	4 Mar. (63)	6 Fri.	331·2778		4363
26 Mar. (85)	1 Sun.	13	30	27	22 Mar. (81)	4 Wed.	27·3283		4364
26 Mar. (85)	2 Mon.	19	42	36	12 Mar. (71)	2 Mon.	241·6881		4365
26 Mar. (86)	4 Wed.	1	54	45	29 Feb. (60)	6 Fri.	117·4060		4366
26 Mar. (85)	5 Thur.	8	6	54	19 Mar. (78)	5 Thur.	152·0883		4367
26 Mar. (85)	6 Fri.	14	19	3	8 Mar. (67)	2 Mon.	27·8112		4368
26 Mar. (85)	0 Sat.	20	31	12	26 Feb. (57)	0 Sat.	242·1660		4369
26 Mar. (86)	2 Mon.	2	43	21	16 Mar. (76)	6 Fri.	276·8483		4370

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4371	1192	1327	676	444-45	1269-70	3 Śukla	8 Bhāva	10 Pauṣha
4372	1193	1328	677	445-46	1270-71	4 Pramōda	9 Yuvan	...
4373	1194	1329	678	446-47	1271-72	5 Prajāpati	10 Dhātri	...
4374	1195	1330	679	447-48	*1272-73	6 Aṅgiras	11 Īśvara	7 Āśvina
4375	1196	1331	680	448-49	1273-74	7 Śrīmukha	12 Bahudhānya	...
4376	1197	1332	681	449-50	1274-75	8 Bhāva	13 Pramāthin	...
4377	1198	1333	682	450-51	1275-76	9 Yuvan	14 Vikrama	3 Jyēshṭha
4378	1199	1334	683	451-52	*1276-77	10 Dhātri	15 Vṛisha	...
4379	1200	1335	684	452-53	1277-78	11 Īśvara	16 Chitrabhānu	12 Phālguna
4380	1201	1336	685	453-54	1278-79	12 Bahudhānya	17 Subhānu	...
4381	1202	1337	686	454-55	1279-80	13 Pramāthin	18 Tāraṇa	...
4382	1203	1338	687	455-56	*1280-81	14 Vikrama	19 Pārthiva	8 Kārttika
4383	1204	1339	688	456-57	1281-82	15 Vṛisha	20 Vyaya	...
4384	1205	1340	689	457-58	1282-83	16 Chitrabhānu	21 Sarvajit	...
4385	1206	1341	690	458-59	1283-84	17 Subhānu	22 Sarvadhārin	5 Śrāvaṇa
4386	1207	1342	691	459-60	*1284-85	18 Tāraṇa	23 Virōdhin	...
4387	1208	1343	692	460-61	1285-86	19 Pārthiva	24 Vikṛita	...
4388	1209	1344	693	461-62	1286-87	20 Vyaya	25 Khara	1 Chaitra
4389	1210	1345	694	462-63	1287-88	21 Sarvajit	26 Nandana	...
4390	1211	1346	695	463-64	*1288-89	22 Sarvadhārin	27 Vijaya	10 Pausha
4391	1212	1347	696	464-65	1289-90	23 Virōdhin	28 Jaya	...
4392	1213	1348	697	465-66	1290-91	24 Vikṛita	29 Manmatha	...
4393	1214	1349	698	466-67	1291-92	25 Khara	30 Durmukha	6 Bhādrapada
4394	1215	1350	699	467-68	*1292-93	26 Nandana	31 Hēmalamba	...
4395	1216	1351	700	468-69	1293-94	27 Vijaya	32 Vilamba	...

XC—*contd.*

COMMENCEMENT OF THE												Kali.
MEAN SOLAR YEAR.						MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).						
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.				Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).				
13	14	17				19	20	23				1
		H.	M.	S.								
26 Mar. (85)	3 Tues.	8	55	30		5 Mar. (64)	3 Tues.	152·5712				4371
26 Mar. (85)	4 Wed.	15	7	39		24 Mar. (83)	2 Mon.	187·2536				4372
26 Mar. (85)	5 Thur.	21	19	48		13 Mar. (72)	6 Fri.	62·9765				4373
26 Mar. (86)	0 Sat.	3	31	57		2 Mar. (62)	4 Wed.	277·3313				4374
26 Mar. (85)	1 Sun.	9	44	6		21 Mar. (80)	3 Tues.	312·0137				4375
26 Mar. (85)	2 Mon.	15	56	15		10 Mar. (69)	0 Sat.	187·7365				4376
26 Mar (85)	3 Tues.	22	8	24		27 Feb. (58)	4 Wed.	63·4593				4377
26 Mar. (86)	5 Thur.	4	20	33		17 Mar. (77)	3 Tues.	98·1417				4378
26 Mar (85)	6 Fri.	10	32	42		7 Mar. (66)	1 Sun.	312·4966				4379
26 Mar. (85)	0 Sat.	16	44	51		25 Mar. (84)	6 Fri.	8·5470				4380
26 Mar. (85)	1 Sun.	22	57	0		15 Mar. (74)	4 Wed.	222·9018				4381
26 Mar. (86)	3 Tues.	5	9	9		3 Mar. (63)	1 Sun.	98·6246				4382
26 Mar. (85)	4 Wed.	11	21	18		22 Mar. (81)	0 Sat.	133·3071				4383
26 Mar. (85)	5 Thur.	17	33	27		11 Mar. (70)	4 Wed.	9·0299				4384
26 Mar. (85)	6 Fri.	23	45	36		1 Mar. (60)	2 Mon.	223·3847				4385
26 Mar. (86)	1 Sun.	5	57	45		19 Mar. (79)	1 Sun.	258·0671				4386
26 Mar. (85)	2 Mon.	12	9	54		8 Mar. (67)	5 Thur.	133·7900				4387
26 Mar. (85)	3 Tues.	18	22	3		25 Feb. (56)	2 Mon.	9·5127				4388
27 Mar. (86)	5 Thur.	0	34	12		16 Mar. (75)	1 Sun.	44·1952				4389
26 Mar. (86)	6 Fri.	6	46	21		5 Mar. (65)	6 Fri.	258·5500				4390
26 Mar. (85)	0 Sat.	12	58	30		24 Mar. (83)	5 Thur.	293·2324				4391
26 Mar. (85)	1 Sun.	19	10	39		13 Mar. (72)	2 Mon.	168·9552				4392
27 Mar. (86)	3 Tues.	1	22	48		2 Mar. (61)	6 Fri.	44·6781				4393
26 Mar. (86)	4 Wed.	7	34	57		20 Mar. (80)	5 Thur.	79·3605				4394
26 Mar. (85)	5 Thur.	13	47	6		10 Mar. (69)	3 Tues.	293·7152				4395

TABLE

CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4396	1217	1352	701	469-70	1294-95	28 Jaya . .	33 Vikārin .	3 Jyēshtha .
4397	1218	1353	702	470-71	1295-96	29 Manmatha .	34 Śārvarin .	
4398	1219	1354	703	471-72	*1296-97	30 Durmukha .	35 Plava . .	11 Māgha .
4399	1220	1355	704	472 73	1297-98	31 Hēmalamba .	36 Śubhakṛit .	...
4400	1221	1356	705	473-74	1298-99	32 Vilamba .	37 Śobhana .	...
4401	1222	1357	706	474-75	1299-1300	33 Vikārin . .	38 Krōdhin .	8 Kārttika .
4402	1223	1358	707	475-76	*1300-01	34 Śārvarin .	39 Visvāvasu .	...
4403	1224	1359	708	476-77	1301-02	35 Plava . .	40 Paribhava	...
4404	1225	1360	709	477-78	1302-03	36 Śubhakṛit .	41 Plavanga	4 Āshādha .
4405	1226	1361	710	478-79	1303-04	37 Śōbhana .	42 Kīlaka . .	...
4406	1227	1362	711	479-80	*1304-05	38 Krōdhin .	43 Saumya .	...
4407	1228	1363	712	480-81	1305-06	39 Viśvāvasu .	44 Sādhārana .	1 Chaitra
4408	1229	1364	713	481-82	1306-07	40 Paribhava .	45 Virōdhakṛit .	..
4409	1230	1365	714	482-83	1307-08	41 Plavanga .	46 Paridhāvin	10 Pausha ‡
4410	1231	1366	715	483-84	*1308-09	42 Kīlaka .	47 Pramādin .	...
4411	1232	1367	716	484-85	1309-10	43 Saumya . .	48 Ānanda . .	...
4412	1233	1368	717	485-86	1310-11	44 Sādhārana .	49 Rākshasa .	6 Bhādrapada .
4413	1234	1369	718	486-87	1311-12	45 Virōdhakṛit .	50 Anala . .	...
4414	1235	1370	719	487-88	*1312-13	46 Paridhāvin .	51 Pingala . .	...
4415	1236	1371	720	488-89	1313-14	47 Pramādin .	52 Kālayukta .	3 Jyēshtha .
4416	1237	1372	721	489-90	1314-15	48 Ānanda . .	53 Siddhārthin	...
4417	1238	1373	722	490-91	1315-16	49 Rākshasa .	54 Raudra .	11 Māgha .
4418	1239	1374	723	491 92	*1316-17	50 Anala . .	55 Durmati	...
4419	1240	1375	724	492 93	1317-18	51 Pingala . .	56 Dundubhi .	...
4420	1241	1376	725	493-94	1318-19	52 Kālayukta .	57 Rudhirōdgārin	8 Kārttika .

‡ See "Remarks," p. 215, preceding this Table.

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COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (85)	6 Fri.	19 59 15	27 Feb. (58)	0 Sat.	169·4381	4396
27 Mar. (86)	1 Sun.	2 11 24	18 Mar. (77)	6 Fri.	204·1205	4397
26 Mar. (86)	2 Mon.	8 23 33	6 Mar. (66)	3 Tues.	79·8433	4398
26 Mar. (85)	3 Tues.	14 35 42	25 Mar. (84)	2 Mon.	114·5257	4399
26 Mar. (85)	4 Wed.	20 47 51	15 Mar. (74)	0 Sat.	328·8806	4400
27 Mar. (86)	6 Fri.	3 0 0	4 Mar. (63)	4 Wed.	204·6034	4401
26 Mar. (86)	0 Sat.	9 12 9	22 Mar. (82)	3 Tues.	239·2859	4402
26 Mar. (85)	1 Sun.	15 24 18	11 Mar. (70)	0 Sat.	115·0087	4403
26 Mar. (85)	2 Mon.	21 36 27	1 Mar. (60)	5 Thur.	329·3635	4404
27 Mar. (86)	4 Wed.	3 48 36	19 Mar. (78)	3 Tues.	25·4139	4405
26 Mar. (86)	5 Thur.	10 0 45	8 Mar. (68)	1 Sun.	239·7688	4406
26 Mar. (85)	6 Fri.	16 12 54	25 Feb. (56)	5 Thur.	115·4915	4407
26 Mar. (85)	0 Sat.	22 25 3	16 Mar. (75)	4 Wed.	150·1739	4408
27 Mar. (86)	2 Mon.	4 37 12	5 Mar. (64)	1 Sun.	25·8968	4409
26 Mar. (86)	3 Tues.	10 49 21	23 Mar. (83)	0 Sat.	60·5791	4410
26 Mar. (85)	4 Wed.	17 1 30	13 Mar. (72)	5 Thur.	274·9340	4411
26 Mar. (85)	5 Thur.	23 13 39	2 Mar. (61)	2 Mon.	150·6569	4412
27 Mar. (86)	0 Sat.	5 25 48	21 Mar. (80)	1 Sun.	185·3393	4413
26 Mar. (86)	1 Sun.	11 37 57	9 Mar. (69)	5 Thur.	61·0621	4414
26 Mar. (85)	2 Mon.	17 50 6	27 Feb. (58)	3 Tues.	275·4169	4415
27 Mar. (86)	4 Wed.	0 2 15	18 Mar. (77)	2 Mon.	310·0993	4416
27 Mar. (86)	5 Thur.	6 14 24	7 Mar. (66)	6 Fri.	185·8221	4417
26 Mar. (86)	6 Fri.	12 26 33	25 Mar. (85)	5 Thur.	220·5045	4418
26 Mar. (85)	0 Sat.	18 38 42	14 Mar. (73)	2 Mon.	96·2274	4419
27 Mar. (86)	2 Mon.	0 50 51	4 Mar. (63)	0 Sat.	310·5822	4420

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4421	1242	1377	726	494-95	1319-20	53 Siddhārthin .	58 Raktāksha .	...
4422	1243	1378	727	495-96	*1320-21	54 Raudra . .	59 Krōdhana .	
4423	1244	1379	728	496-97	1321-22	55 Durmati .	60 Kshaya . .	4 Āshāḍha .
4424	1245	1380	729	497-98	1322-23	56 Dundubhi .	1 Prabhava .	...
4425	1246	1381	730	498-99	1323-24	57 Rudhirōdgārin .	2 Vibhava .	...
4426	1247	1382	731	499-500	*1324-25	58 Raktāksha .	3 Śukla . .	1 Chaitra .
4427	1248	1383	732	500-01	1325-26	59 Krōdhana .	4 Pramōda .	...
4428	1249	1384	733	501-02	1326-27	60 Kshaya . .	5 Prajāpati .	9 Mārgaśīra .
4429	1250	1385	734	502-03	1327-28	1 Prabhava .	6 Angiras . .	...
4430	1251	1386	735	503-04	*1328-29	2 Vibhava .	7 Śrīmukha .	...
4431	1252	1387	736	504-05	1329-30	3 Śukla . .	8 Bhāva† . .	6 Bhādrapada .
4432	1253	1388	737	505-06	1330-31	4 Pramōda .	10 *Dhātṛi* . .	...
4433	1254	1389	738	506-07	1331-32	5 Prajāpati .	11 *Īśvara* . .	...
4434	1255	1390	739	507-08	*1332-33	6 Aṅgiras . .	12 *Bahudhānya* .	2 Vaiśākha .
4435	1256	1391	740	508-09	1333 34	7 Śrīmukha .	13 *Pramāthin* .	...
4436	1257	1392	741	509-10	1334-35	8 Bhāva . .	14 *Vikrama* .	11 Māgha .
4437	1258	1393	742	510-11	1335-36	9 Yuvan . .	15 *Vṛisha* . .	...
4438	1259	1394	743	511-12	*1336-37	10 Dhātṛi . .	16 Chitrabhānu .	...
4439	1260	1395	744	512-13	1337-38	11 Īśvara . .	17 Subhānu .	7 Āśvina .
4440	1261	1396	745	513-14	1338-39	12 Bahudhānya .	18 Tāraṇa . .	. .
4441	1262	1397	746	514-15	1339-40	13 Pramāthin .	19 Pārthiva . .	...
4442	1263	1398	747	515-16	*1340-41	14 Vikrama .	20 Vyaya . .	4 Āshāḍha .
4443	1264	1399	748	516-17	1341-42	15 Vṛisha . .	21 Sarvajit . .	...
4444	1265	1400	749	517-18	1312-43	16 Chitrabhānu .	22 Sarvadhārin .	12 Phālguna .
4445	1266	1401	750	518-19	1343-44	17 Subhānu .	23 Virōdhin .	...

† 9 Yuvan was suppressed in the north by the mean system. By the "true" system K.Y. 4431 (expired A.D. 1330-31) was called "Yuvan," and 10 Dhātṛi was suppressed. The next year was 11 Īśvara by both systems.

XC—*contd.*

COMMENCEMENT OF THE							
MEAN SOLAR YEAR.				MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.		Day and month, A.D.	Week-day.	a (here = t, the index of the *tithi*).	
13	14	17		19	20	23	1
		H. M. S.					
27 Mar. (86)	3 Tues.	7 3 0		22 Mar. (81)	5 Thur.	6·6326	4421
26 Mar. (86)	4 Wed.	13 15 9		11 Mar. (71)	3 Tues.	220·9874	4422
26 Mar. (85)	5 Thur.	19 27 18		28 Feb. (59)	0 Sat.	96·7103	4423
27 Mar. (86)	0 Sat.	1 39 27		19 Mar. (78)	6 Fri.	131·3926	4424
27 Mar. (86)	1 Sun.	7 51 36		8 Mar. (67)	3 Tues.	7·1155	4425
26 Mar. (86)	2 Mon.	14 3 45		26 Feb. (57)	1 Sun.	221·4703	4426
26 Mar. (85)	3 Tues.	20 15 54		16 Mar. (75)	0 Sat.	256·1527	4427
27 Mar. (86)	5 Thur.	2 28 3		5 Mar. (64)	4 Wed.	131·8755	4428
27 Mar. (86)	6 Fri.	8 40 12		24 Mar. (83)	3 Tues.	166·5579	4429
26 Mar. (86)	0 Sat.	14 52 21		12 Mar. (72)	0 Sat.	42·2808	4430
26 Mar. (85)	1 Sun.	21 4 30		2 Mar. (61)	5 Thur.	256·6356	4431
27 Mar. (86)	3 Tues.	3 16 39		21 Mar. (80)	4 Wed.	291·2180	4432
27 Mar. (86)	4 Wed.	9 28 48		10 Mar. (69)	1 Sun.	167·0409	4433
26 Mar. (86)	5 Thur.	15 40 57		27 Feb. (58)	5 Thur.	42·7637	4434
26 Mar. (85)	6 Fri.	21 53 6		17 Mar. (76)	4 Wed.	77·4460	4435
27 Mar. (86)	1 Sun.	4 5 15		7 Mar. (66)	2 Mon.	291·8009	4436
27 Mar. (86)	2 Mon.	10 17 24		25 Mar. (85)	1 Sun.	326·4833	4437
26 Mar. (86)	3 Tues.	16 29 33		14 Mar. (74)	5 Thur.	202·2062	4438
26 Mar. (85)	4 Wed.	22 41 42		3 Mar. (62)	2 Mon.	77·9289	4439
27 Mar. (86)	6 Fri.	4 53 51		22 Mar. (81)	1 Sun.	112·6114	4440
27 Mar. (86)	0 Sat.	11 6 0		12 Mar. (71)	6 Fri.	326·9662	4441
26 Mar. (86)	1 Sun.	17 18 9		29 Feb. (60)	3 Tues.	202·6890	4442
26 Mar. (85)	2 Mon.	23 30 18		19 Mar. (78)	2 Mon.	237·3714	4443
27 Mar. (86)	4 Wed.	5 42 27		8 Mar. (67)	6 Fri.	113·0943	4444
27 Mar. (86)	5 Thur.	11 54 36		27 Mar. (86)	5 Thur.	147·7767	4445

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4446	1267	1402	751	519-20	*1344-45	18 Tāraṇa . .	24 Vikṛita . .	...
4447	1268	1403	752	520-21	1345-46	19 Pārthiva . .	25 Khara . .	9 Mārgaśira .
4448	1269	1404	753	521-22	1346-47	20 Vyaya . .	26 Nandana . .	...
4449	1270	1405	754	522-23	1347-48	21 Sarvajit . .	27 Vijaya . .	...
4450	1271	1406	755	523-24	*1348-49	22 Sarvadhārin .	28 Jaya . .	6 Bhādrapada .
4451	1272	1407	756	524-25	1349-50	23 Virōdhin .	29 Manmatha .	
4452	1273	1408	757	525-26	1350-51	24 Vikṛita . .	30 Durmukha .	. .
4453	1274	1409	758	526-27	1351-52	25 Khara . .	31 Hēmalamba .	2 Vaiśākha .
4454	1275	1410	759	527-28	*1352-53	26 Nandana . .	32 Vilamba . .	...
4455	1276	1411	760	528-29	1353-54	27 Vijaya . .	33 Vikārin . .	11 Māgha .
4456	1277	1412	761	529-30	1354-55	28 Jaya . .	34 Śārvarin . .	...
4457	1278	1413	762	530-31	1355-56	29 Manmatha .	35 Plava . .	...
4458	1279	1414	763	531-32	*1356-57	30 Durmukha .	36 Śubhakṛit .	7 Āśvina .
4459	1280	1415	764	532-33	1357-58	31 Hēmalamba .	37 Śōbhana . .	..
4460	1281	1416	765	533-34	1358-59	32 Vilamba . .	38 Krōdhin . .	...
4461	1282	1417	766	534-35	1359-60	33 Vikārin . .	39 Viśvāvasu .	4 Āshāḍha .
4462	1283	1418	767	535-36	*1360-61	34 Śārvarin . .	40 Parābhava .	. .
4463	1284	1419	768	536-37	1361-62	35 Plava . .	41 Plavaṅga .	12 Phālguna .
4464	1285	1420	769	537-38	1362-63	36 Śubhakṛit .	42 Kīlaka . .	...
4465	1286	1421	770	538-39	1363-64	37 Śōbhana . .	43 Saumya . .	..
4466	1287	1422	771	539-40	*1364-65	38 Krōdhin . .	44 Sādhāraṇa .	9 Mārgaśira
4467	1288	1423	772	540-41	1365-66	39 Viśvāvasu .	45 Virōdhakṛit .	...
4468	1289	1424	773	541-42	1366-67	40 Parābhava .	46 Paridhāvin .	. .
4469	1290	1425	774	542-43	1367-68	41 Plavaṅga .	47 Pramādin .	5 Śrāvaṇa
4470	1291	1426	775	543-44	*1368-69	42 Kīlaka . .	48 Ānanda . .	...

XC—*contd.*

COMMENCEMENT OF THE									
MEAN SOLAR YEAR.					MEAN LUNI SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.			Day and month, A.D.	Week-day.	*a* (here=*t*, the index of the *tithi*).	
13	14	17			19	20	23	1
		H.	M.	S.				
26 Mar. (86)	6 Fri.	18	6	45	15 Mar. (75)	2 Mon.	23·4995	4446
27 Mar. (86)	1 Sun.	0	18	54	5 Mar. (64)	0 Sat.	237·8543	4447
27 Mar. (86)	2 Mon.	6	31	3	24 Mar. (83)	6 Fri.	272·5367	4448
27 Mar. (86)	3 Tues.	12	43	12	13 Mar. (72)	3 Tues.	148·2595	4449
26 Mar. (86)	4 Wed.	18	55	21	1 Mar. (61)	0 Sat.	23·9824	4450
27 Mar. (86)	6 Fri.	1	7	30	20 Mar. (79)	6 Fri.	58·6648	4451
27 Mar. (86)	0 Sat.	7	19	39	10 Mar. (69)	4 Wed.	273·0197	4452
27 Mar. (86)	1 Sun.	13	31	48	27 Feb. (58)	1 Sun.	148·7424	4453
26 Mar. (86)	2 Mon.	19	43	57	17 Mar. (77)	0 Sat.	183 4218	4454
27 Mar. (86)	4 Wed.	1	56	6	6 Mar. (65)	4 Wed.	59·1477	4455
27 Mar. (86)	5 Thur.	8	8	15	25 Mar. (84)	3 Tues.	93·8300	4456
27 Mar. (86)	6 Fri.	14	20	24	15 Mar. (74)	1 Sun.	308·1849	4457
26 Mar. (86)	0 Sat.	20	32	33	3 Mar. (63)	5 Thur.	183·9077	4458
27 Mar. (86)	2 Mon.	2	44	42	22 Mar. (81)	4 Wed.	218·5902	4459
27 Mar. (86)	3 Tues.	8	56	51	11 Mar. (70)	1 Sun.	94·3129	4460
27 Mar. (86)	4 Wed.	15	9	0	1 Mar. (60)	6 Fri.	308 6678	4461
26 Mar. (86)	5 Thur.	21	21	9	18 Mar. (78)	4 Wed.	4·7182	4462
27 Mar. (86)	0 Sat.	3	33	18	8 Mar. (67)	2 Mon.	219·0730	4463
27 Mar. (86)	1 Sun.	9	45	27	27 Mar. (86)	1 Sun.	253·7554	4464
27 Mar (86)	2 Mon.	15	57	36	16 Mar. (75)	5 Thur.	129·4783	4465
26 Mar. (86)	3 Tues.	22	9	45	4 Mar. (64)	2 Mon.	5·2011	4466
27 Mar. (86)	5 Thur.	4	21	54	23 Mar. (82)	1 Sun.	39·8835	4467
27 Mar. (86)	6 Fri.	10	34	3	13 Mar. (72)	6 Fri.	254·2383	4468
27 Mar. (86)	0 Sat.	16	46	12	2 Mar. (61)	3 Tues.	129 9612	4469
26 Mar. (86)	1 Sun.	22	58	21	20 Mar. (80)	2 Mon.	164·6435	4470

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4471	1292	1427	776	541-45	1369-70	43 Saumya . .	49 Rākshasa	...
4472	1293	1428	777	545-46	1370-71	44 Sādhāraṇa	50 Anala . .	2 Vaiśākha .
4473	1294	1429	778	546-47	1371-72	45 Virōdhakṛit .	51 Pingala . .	...
4474	1295	1430	779	547-48	*1372-73	46 Paridhāvin .	52 Kālayukta .	10 Pausha .
4475	1296	1431	780	548-49	1373-74	47 Pramādin .	53 Siddhārthin .	. .
4476	1297	1432	781	549-50	1374-75	48 Ānanda . .	54 Raudra . .	...
4477	1298	1433	782	550-51	1375-76	49 Rākshasa .	55 Durmati .	7 Āśvina .
4478	1299	1434	783	551-52	*1376-77	50 Anala . .	56 Dundubhi .	...
4479	1300	1435	784	552-53	1377-78	51 Piṅgala . .	57 Rudhirōdgārin	...
4480	1301	1436	785	553-54	1378-79	52 Kālayukta .	58 Raktāksha .	3 Jyēshṭha .
4481	1302	1437	786	554-55	1379-80	53 Siddhārthin .	59 Krōdhana .	...
4482	1303	1438	787	555-56	*1380-81	54 Raudra . .	60 Kshaya . .	12 Phālguna .
4483	1304	1439	788	556-57	1381-82	55 Durmati .	1 Prabhava .	...
4484	1305	1440	789	557-58	1382-83	56 Dundubhi .	2 Vibhava .	...
4485	1306	1441	790	558-59	1383-84	57 Rudhirōdgārin .	3 Śukla . .	9 Mārgaśira .
4486	1307	1442	791	559-60	*1384-85	58 Raktāksha .	4 Pramōda .	. .
4487	1308	1443	792	560-61	1385-86	59 Krōdhana .	5 Prajāpati .	...
4488	1309	1444	793	561-62	1386-87	60 Kshaya . .	6 Aṅgiras . .	5 Śrāvaṇa .
4489	1310	1445	794	562-63	1387-88	1 Prabhava .	7 Śrīmukha .	...
4490	1311	1446	795	563-64	*1388-89	2 Vibhava .	8 Bhāva . .	...
4491	1312	1447	796	564-65	1389-90	3 Śukla . .	9 Yuvan . .	2 Vaiśākha .
4492	1313	1448	797	565-66	1390-91	4 Pramōda .	10 Dhātṛi . .	...
4493	1314	1449	798	566-67	1391-92	5 Prajāpati .	11 Īśvara . .	10 Pausha .
4494	1315	1450	799	567-68	*1392-93	6 Aṅgiras . .	12 Bahudhānya .	...
4495	1316	1451	800	568-69	1393-94	7 Śrīmukha .	13 Pramāthin .	...

XC—*contd.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here $= t$, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
27 Mar. (86)	3 Tues.	5 10 30	9 Mar. (68)	6 Fri.	40·3664	4471
27 Mar. (86)	4 Wed.	11 22 39	27 Feb. (58)	4 Wed.	254·7212	4472
27 Mar. (86)	5 Thur.	17 34 48	18 Mar. (77)	3 Tues.	289·4036	4473
26 Mar. (86)	6 Fri.	23 46 57	6 Mar. (66)	0 Sat.	165·1264	4474
27 Mar. (86)	1 Sun.	5 59 6	25 Mar. (84)	6 Fri.	199·8988	4475
27 Mar. (86)	2 Mon.	12 11 15	14 Mar. (73)	3 Tues.	75·5317	4476
27 Mar. (86)	3 Tues.	18 23 24	4 Mar. (63)	1 Sun.	289·8864	4477
27 Mar. (87)	5 Thur.	0 35 33	22 Mar. (82)	0 Sat.	324·5689	4478
27 Mar. (86)	6 Fri.	6 47 42	11 Mar. (70)	4 Wed.	200·2917	4479
27 Mar. (86)	0 Sat.	12 59 51	28 Feb. (59)	1 Sun.	76·0146	4480
27 Mar. (86)	1 Sun.	19 12 0	19 Mar. (78)	0 Sat.	110·6969	4481
27 Mar. (87)	3 Tues.	1 24 9	8 Mar. (68)	5 Thur.	325 0518	4482
27 Mar. (86)	4 Wed.	7 36 18	26 Mar. (85)	3 Tues.	21·1022	4483
27 Mar. (86)	5 Thur.	13 48 27	16 Mar. (75)	1 Sun.	235·4571	4484
27 Mar. (86)	6 Fri.	20 0 36	5 Mar. (64)	5 Thur.	111·1798	4485
27 Mar. (87)	1 Sun.	2 12 45	23 Mar. (83)	4 Wed.	145·8623	4486
27 Mar. (86)	2 Mon.	8 24 54	12 Mar. (71)	1 Sun.	21 5851	4487
27 Mar. (86)	3 Tues.	14 37 3	2 Mar. (61)	6 Fri.	235·9399	4488
27 Mar. (86)	4 Wed.	20 49 12	21 Mar. (80)	5 Thur.	270 6223	4489
27 Mar. (87)	6 Fri.	3 1 21	9 Mar. (69)	2 Mon.	146·3452	4490
27 Mar. (86)	0 Sat.	9 13 30	26 Feb. (57)	6 Fri.	22 0680	4491
27 Mar. (86)	1 Sun.	15 25 39	17 Mar. (76)	5 Thur.	56·7503	4492
27 Mar. (86)	2 Mon.	21 37 48	7 Mar. (66)	3 Tues.	271·1052	4493
27 Mar. (87)	4 Wed.	3 49 57	25 Mar. (85)	2 Mon.	305·7876	4494
27 Mar. (86)	5 Thur.	10 2 6	14 Mar. (73)	6 Fri.	181 5104	4495

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Beng.l.	Kollam.	A.D.	Jovian Saṁvatsara.		Mean intercalated (*adhika*) lunar month.
						Southern system.	Northern system.	
1	2	3	3*a*	4	5	6	7	8*a*
4496	1317	1452	801	569-70	1394-95	8 Bhāva . .	14 Vikrama .	7 Āśvina .
4497	1318	1453	802	570-71	1395-96	9 Yuvan . .	15 Vṛisha . .	...
4498	1319	1454	803	571-72	*1396-97	10 Dhātṛi . .	16 Chitrabhānu .	...
4499	1320	1455	804	572-73	1397-98	11 Iśvara . .	17 Subhānu .	3 Jyēshṭha .
4500	1321	1456	805	573-74	1398-99	12 Bahudhānya .	18 Tāraṇa . .	..
4501	1322	1457	806	574-75	1399-1400	13 Pramāthin .	19 Pārthiva .	12 Phālguna .
4502	1323	1458	807	575-76	*1400-01	14 Vikrama .	20 Vyaya . .	...

XC—*concld.*

COMMENCEMENT OF THE						Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	*a* (here = *t*, the index of the *tithi*).	
13	14	17	19	20	23	1
		H. M. S.				
27 Mar. (86) . .	6 Fri. .	16 14 15	3 Mar. (62) .	3 Tues. .	57·2333	4496
27 Mar. (86) . .	0 Sat. .	22 26 21	22 Mar. (81) .	2 Mon. .	91·9157	4497
27 Mar. (87) . .	2 Mon. .	4 38 33	11 Mar. (71) .	0 Sat. .	303·2704	4498
27 Mar. (86) . .	3 Tues. .	10 50 42	28 Feb. (59) .	4 Wed. .	181·0933	4499
27 Mar. (86) . .	4 Wed. .	17 2 51	19 Mar. (78) .	3 Tues. .	216·6757	4500
27 Mar. (86) . .	5 Thur. .	23 15 0	8 Mar. (67) .	0 Sat. .	92·3986	4501
27 Mar. (87) . .	0 Sat. .	5 27 9	26 Mar. (86) .	6 Fri. .	127·0810	4502

TABLE XCI.

DURATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE BRAHMA-SIDDHĀNTA, WITH INCREASE OF a AT EACH SAṂKRĀNTI.

Mean luni-solar month, ending after the second of the two solar saṁkrāntis connected with it.	At the mean solar saṁkrāntis.	Collective duration in time, and collective increase of a from mean Mēsha-saṁkrānti to the several saṁkrāntis.					a	
		Day.	Week-day.	H.	M.	S.		
1	2	3					4	
	Mīna-saṁk. (*of previous year*).							
1 Chaitra .	Mēsha-saṁk. .	0	0	0	0	0	0	
2 Vaiśākha .	Vṛishabha-saṁk. .	30	(2)	10	31	$0\frac{3}{4}$	307·3492	The duration of each mean solar month is $30^d\ 10^h\ 31^m\ 0\frac{3}{4}^s$; and in this time the mean moon's increase of distance from mean sun (our a), in measurement by 10,000ths of circle, is 307·349156595.
3 Jyēshṭha .	Mithuna-saṁk. .	60	(4)	21	2	$1\frac{1}{2}$	614·6983	
4 Āshāḍha .	Karka-saṁk. .	91	(0)	7	33	$2\frac{1}{4}$	922·0475	
5 Srāvaṇa .	Siṁha-saṁk. . .	121	(2)	18	4	3	1229·3966	
6 Bhādrapada .	Kanyā-saṁk. .	152	(5)	4	35	$3\frac{3}{4}$	1536·7458	
7 Āśvina .	Tulā-saṁk. . .	182	(0)	15	6	$4\frac{1}{2}$	1844·0949	
8 Kārttika .	Vṛiśchika-saṁk. .	213	(3)	1	37	$5\frac{1}{4}$	2151·4441	
9 Mārgaśira .	Dhanus-saṁk. .	243	(5)	12	8	6	2458·7933	
10 Pausha .	Makara-saṁk. .	273	(0)	22	39	$6\frac{3}{4}$	2766·1424	
11 Māgha .	Kumbha-saṁk. .	304	(3)	9	10	$7\frac{1}{2}$	3073·4916	
12 Phālguna .	Mīna-saṁk. . .	334	(5)	19	41	$8\frac{1}{4}$	3380·8407	
1 Chaitra (*of following year*).	Mēsha-saṁk. (*of following year*).	365	(1)	6	12	9	3688·1899	

A saṁkrānti occurs at the moment when the mean sun enters a zodiacal sign.

TABLE XCII.

CENTURY-TABLE.

VALUE OF a ($= t$) AT BEGINNING OF CENTURIES K.Y., i.e. AT MEAN SUNRISE ON DAY OF OCCURRENCE OF MEAN MĒSHA-SAṀKRĀNTI (MEAN SUN AT 0°) IN FIRST YEAR OF CENTURY. [CENTURIES 38, 44, WERE DEFECTIVE; THE REST COMMON.]

Beginning of K.Y. century.	Beginning in A.D.	Week-day.	a ($= t$).
37	599	(0)	6228·4770
38	699	(0)	5100·3761
39	799	(6)	3633·6433
40	899	(6)	2505·5425
41	999	(6)	1377·4416
42	1099	(6)	249·3408
43	1199	(6)	9121·2399
44	1299	(6)	7993·1391
45	1399	(5)	6526·4063

For odd years of centuries use the *Siddhānta-Śirōmaṇi* Table LVII-B (*above, Vol. XV*).

TABLE XCIII.

MEAN SUNRISE VALUES OF a (DISTANCE OF MEAN MOON FROM MEAN SUN) IN 10,000THS OF CIRCLE FOR A MONTH PREVIOUS TO THE DAY ON WHICH MEAN MĒSHA-SAṀKRĀNTI OCCURRED.

Interval of days from mean Mēsha-saṁkrānti day.	Week-day.	a (mean sunrise value).	Interval of days from mean Mēsha-saṁkrānti day.	Week-day.	a (mean sunrise value).
1	2	3	1	2	3
31	(4)	9502·4085	15	(6)	4920·5202
30	(5)	9841·0404	14	(0)	5259·1522
29	(6)	179·6724	13	(1)	5597·7842
28	(0)	518·3044	12	(2)	5936·4162
27	(1)	856·9364	11	(3)	6275·0482
26	(2)	1195·5684	10	(4)	6613·6801
25	(3)	1534·2004	9	(5)	6952 3121
24	(4)	1872·8324	8	(6)	7290·9441
23	(5)	2211·4643	7	(0)	7629·5761
22	(6)	2550·0963	6	(1)	7968·2081
21	(0)	2888·7283	5	(2)	8306·8401
20	(1)	3227·3603	4	(3)	8645·4721
19	(2)	3565·9923	3	(4)	8984·1040
18	(3)	3904·6243	2	(5)	9322·7360
17	(4)	4243·2563	1	(6)	9661·3680
16	(5)	4581·8882	0	(0)	0·0

The use of this Table is explained in Example 2 of this article, and in Example 1 of article on the *First Ārya-Siddhānta, mean system* (*above, Vol. XVI*).

TABLE XCIV.

TIME-EQUIVALENTS OF THE TITHI (*a* OR *t*), NAKSHATRA (*n*), AND YOGA (*y*) UNITS.

In very close cases it is sometimes necessary to calculate the exact moment of the beginning and ending of *tithis*, *nakshatras* and *yōgas*, with greater accuracy than can be obtained by the use of Table X, *Indian Calendar*, or Table LXX (*above*, *Vol. XVI*, *p. 216*), where the time-equivalent of the unit, respectively, is given only in hours and minutes. My general working Tables for several of the Hindu astronomical *Siddhāntas* already published yield results, stated in measurement by 10,000ths of the circle, with an accuracy extending to four places of decimals, and the following Table enables the result to be translated into time down to a fraction of a second. It may be used for all astronomical authorities.

The tithi-index unit.

The *tithi*-unit is $\frac{1}{10,000}$th of a mean lunation. The mean lunation, according to the *Ārya-* and *Sūrya-Siddhāntas*, occupies $29^{d}\ 12^{h}\ 44^{m}\ 2^{s}\cdot79$. The unit, or 10,000th part of this, is $4^{m}\cdot2524046$, or $4^{m}\ 15^{s}\cdot144279$.

The nakshatra-index unit.

The moon's *nakshatra*, or her position in the heavens, mean or true, is found by adding the *tithi*-index, *a* or *t*, to the index of the sun's longitude, *s*, mean or true. Both these values are found in the ordinary course of calculation for a date.

The mean *nakshatra*-value $n = 10,000$ is reached in $27^{d}\ 7^{h}\ 43^{m}\ 12^{s}\cdot3$. In this period the sun's mean motion amounts, in 10,000ths of circle measurement, to 748·0087 (*Table XLIV above* (*Vol. XIV*)) and the moon's mean distance from mean sun increases (*Table LIV A, B* (*Vol. XV*)) to 9251·9913. Total 10,000.

$27^{d}\ 7^{h}\ 43^{m}\ 12^{s}\cdot3 = 39343^{m}\cdot205$, and this divided by 10,000 fixes the time-equivalent of the *nakshatra*-unit as $3^{m}\cdot9343205$, or $3^{m}\ 56^{s}\cdot05923$.

The yōga-index unit.

Similarly the *yōga-chakra* is estimated by the *Sūrya-Siddhānta* (*Indian Calendar*, *p. 62*, § *113*) as occupying 36605·116 minutes of time, or $25^{d}\ 10^{h}\ 5^{m}\ 6^{s}\cdot96$.[1] The *yōga*-unit therefore is $3^{m}\cdot6605116$, or $3^{m}\ 39^{s}\cdot6307$.

[1] The *yōga* formula is $y = s$ (sun's long.) $+ n$ (moon's *nakshatra*), and, since $n = s + a$, $y = 2s + a$. In the period noted it will be found by calculation, using Table XLIV (*above*, *Vol. XIV*), that the mean sun s arrives, in 10,000ths of circle measurement, at long. 695·9511; and by using Table LXIV (*Vol. XVI*) that in the same period the mean moon has increased her distance from mean sun (a) by 8608·0964. Twice $s = 1391·9022$, and this + 8608·0964 (the value of a) = 9999·9988, practically 10,000 exactly. Table LXIV was prepared according to the *First Ārya-Siddhānta*. Using *Siddhānta-Śiromaṇi* and *Brahma-Siddhānta* estimates (*Table LIV*) the total amounts to 10,000·0015, I have as yet no similar Table according to *Sūrya-Siddhānta* requirements; but from what has been said it may be assumed that its estimate of the time occupied by one *yōga-chakra* (= 10,000) is correct.

TABLE XCIV-A.

TIME-EQUIVALENTS.

TITHI-INDEX UNITS.

("Arg."= a or t.)

Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.
1	0	4	15·14	30	2	7	34·33	59	4	10	53·51	88	6	14	12·70
2	0	8	30·29	31	2	11	49·47	60	4	15	8·7	89	6	18	27·84
3	0	12	45·43	32	2	16	4·62	61	4	19	23·80	90	6	22	42·99
4	0	17	0·58	33	2	20	19·76	62	4	23	38·95	91	6	26	58·13
5	0	21	15·72	34	2	24	34·91	63	4	27	54·09	92	6	31	13·27
6	0	25	30·87	35	2	28	50·05	64	4	32	9·23	93	6	35	28·42
7	0	29	46·01	36	2	33	5·19	65	4	36	24·38	94	6	39	43·56
8	0	34	1·15	37	2	37	20·34	66	4	40	39·52	95	6	43	58·71
9	0	38	16·30	38	2	41	35·48	67	4	44	54·67	96	6	48	13·85
10	0	42	31·44	39	2	45	50·63	68	4	49	9·81	97	6	52	29·00
11	0	46	46·59	40	2	50	5·77	69	4	53	24·96	98	6	56	44·14
12	0	51	1·73	41	2	54	20·92	70	4	57	40·10	99	7	0	59·28
13	0	55	16·88	42	2	58	36·06	71	5	1	55·24	100	7	5	14·43
14	0	59	32·02	43	3	2	51·20	72	5	6	10·39	200	14	10	28·86
15	1	3	47·16	44	3	7	6·35	73	5	10	25·53	300	21	15	43·28
16	1	8	2·31	45	3	11	21·49	74	5	14	40·68	400	28	20	57·71
17	1	12	17·45	46	3	15	36·64	75	5	18	55·82	500	35	26	12·14
18	1	16	32·60	47	3	19	51·78	76	5	23	10·97	600	42	31	26·57
19	1	20	47·74	48	3	24	6·93	77	5	27	26·11	700	49	36	41·00
20	1	25	2·29	49	3	28	22·07	78	5	31	41·25	800	56	41	55·42
21	1	29	18·03	50	3	32	37·21	79	5	35	56·40	900	63	47	9·85
22	1	33	33·17	51	3	36	52·36	80	5	40	11·54	1000	70	52	24·28
23	1	37	48·32	52	3	41	7·50	81	5	44	26·69				
24	1	42	3·46	53	3	45	22·65	82	5	48	41·83				
25	1	46	18·61	54	3	49	37·79	83	5	52	56·98				
26	1	50	33·75	55	3	53	52·94	84	5	57	12·20				
27	1	54	48·90	56	3	58	8·08	85	6	1	27·26				
28	1	59	4·04	57	4	2	23·22	86	6	5	42·41				
29	2	3	19·18	58	4	6	38·37	87	6	9	57·55				

TABLE XCIV-B.

Time-equivalents.

Decimals of tithi-index units.

First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	First 2 decimals.	M.	S.
·01	0	2·55	·34	1	26·75	·67	2	50·95
·02	0	5·10	·35	1	29·30	·68	2	53·50
·03	0	7·65	·36	1	31·85	·69	2	56·05
·04	0	10·21	·37	1	34·40	·70	2	58·60
·05	0	12·76	·38	1	36·95	·71	3	1·15
·06	0	15·31	·39	1	39·51	·72	3	3·70
·07	0	17·86	·40	1	42·06	·73	3	6·26
·08	0	20·41	·41	1	44·61	·74	3	8·81
·09	0	22·96	·42	1	47·16	·75	3	11·36
·10	0	25·51	·43	1	49·71	·76	3	13·91
·11	0	28·07	·44	1	52·26	·77	3	16·46
·12	0	30·62	·45	1	54·81	·78	3	19·01
·13	0	33·17	·46	1	57·37	·79	3	21·56
·14	0	35·72	·47	1	59·92	·80	3	24·12
·15	0	38·27	·48	2	2·47	·81	3	26·67
·16	0	40·82	·49	2	5·02	·82	3	29·22
·17	0	43·37	·50	2	7·57	·83	3	31·78
·18	0	45·93	·51	2	10·12	·84	3	34·32
·19	0	48·48	·52	2	12·68	·85	3	36·87
·20	0	51·03	·53	2	15·23	·86	3	39·42
·21	0	53·58	·54	2	17·78	·87	3	41·98
·22	0	56·13	·55	2	20·33	·88	3	44·53
·23	0	58·68	·56	2	22·88	·89	3	47·08
·24	0	61·23	·57	2	25·43	·90	3	49·63
·25	1	3·79	·58	2	27·98	·91	3	52·18
·26	1	6·34	·59	2	30·54	·92	3	54·73
·27	1	8·89	·60	2	33·09	·93	3	57·28
·28	1	11·44	·61	2	35·64	·94	3	59·84
·29	1	13·99	·62	2	38·19	·95	4	2·39
·30	1	16·54	·63	2	40·74	·96	4	4·94
·31	1	19·09	·64	2	43·29	·97	4	7·49
·32	1	21·65	·65	2	45·84	·98	4	10·04
·33	1	24·20	·66	2	48·40	·99	4	12·59

3rd and 4th decimals.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.
·0001	0·03	·0034	0·87	·0067	1·71
·0002	0·05	·0035	0·89	·0068	1·73
·0003	0·08	·0036	0·92	·0069	1·76
·0004	0·10	·0037	0·94	·0070	1·79
·0005	0·13	·0038	0·97	·0071	1·81
·0006	0·15	·0039	1·00	·0072	1·84
·0007	0·18	·0040	1·02	·0073	1·86
·0008	0·20	·0041	1·05	·0074	1·89
·0009	0·23	·0042	1·07	·0075	1·91
·0010	0·26	·0043	1·10	·0076	1·94
·0011	0·28	·0044	1·12	·0077	1·96
·0012	0·31	·0045	1·15	·0078	1·99
·0013	0·33	·0046	1·17	·0079	2·02
·0014	0·36	·0047	1·20	·0080	2·04
·0015	0·38	·0048	1·22	·0081	2·07
·0016	0·41	·0049	1·25	·0082	2·09
·0017	0·43	·0050	1·28	·0083	2·12
·0018	0·46	·0051	1·30	·0084	2·14
·0019	0·48	·0052	1·33	·0085	2·17
·0020	0·51	·0053	1·35	·0086	2·19
·0021	0·54	·0054	1·38	·0087	2·22
·0022	0·56	·0055	1·40	·0088	2·25
·0023	0·59	·0056	1·43	·0089	2·27
·0024	0·61	·0057	1·45	·0090	2·30
·0025	0·64	·0058	1·48	·0091	2·32
·0026	0·66	·0059	1·51	·0092	2·35
·0027	0·69	·0060	1·53	·0093	2·37
·0028	0·71	·0061	1·56	·0094	2·40
·0029	0·74	·0062	1·58	·0095	2·42
·0030	0·77	·0063	1·61	·0096	2·45
·0031	0·79	·0064	1·63	·0097	2·47
·0032	0·82	·0065	1·66	·0098	2·50
·0033	0·84	·0066	1·68	·0099	2·52

TABLE XCIV-C.

TIME-EQUIVALENTS.

NAKSHATRA-INDEX UNITS.

Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.
1	0	3	56·06	31	2	1	57·84	61	3	59	59·61	91	5	58	1·39
2	0	7	52·12	32	2	5	53·90	62	4	3	55·67	92	6	1	57·45
3	0	11	48·18	33	2	9	49·95	63	4	7	51·73	93	6	5	53·51
4	0	15	44·24	34	2	13	46·01	64	4	11	47·79	94	6	9	49·57
5	0	19	40·30	35	2	17	42·07	65	4	15	43·85	95	6	13	45·63
6	0	23	36·36	36	2	21	38·13	66	4	19	39·91	96	6	17	41·69
7	0	27	32·41	37	2	25	34·19	67	4	23	35·97	97	6	21	37·75
8	0	31	28·47	38	2	29	30·25	68	4	27	32·03	98	6	25	33·80
9	0	35	24·53	39	2	33	26·31	69	4	31	28·09	99	6	29	29·86
10	0	39	20·59	40	2	37	22·37	70	4	35	24·15	100	6	33	25·92
11	0	43	16·65	41	2	41	18·43	71	4	39	20·21	200	13	6	51·85
12	0	47	12·71	42	2	45	14·49	72	4	43	16·26	300	19	40	17·78
13	0	51	8·77	43	2	49	10·55	73	4	47	12·32				
14	0	55	4·83	44	2	53	6·61	74	4	51	8·38				
15	0	59	0·89	45	2	57	2·67	75	4	55	4·44				
16	1	2	56·95	46	3	0	58·72	76	4	59	0·50				
17	1	6	53·01	47	3	4	54·78	77	5	2	56·56				
18	1	10	49·07	48	3	8	50·84	78	5	6	52·62				
19	1	14	45·13	49	3	12	46·90	79	5	10	48·68				
20	1	18	41·18	50	3	16	42·96	80	5	14	44·74				
21	1	22	37·24	51	3	20	39·02	81	5	18	40·80				
22	1	26	33·30	52	3	24	35·08	82	5	22	36·86				
23	1	30	29·36	53	3	28	31·14	83	5	26	32·92				
24	1	34	25·42	54	3	32	27·20	84	5	30	28·98				
25	1	38	21·48	55	3	36	23·26	85	5	34	25·03				
26	1	42	17·54	56	3	40	19·32	86	5	38	21·09				
27	1	46	13·60	57	3	44	15·38	87	5	42	17·15				
28	1	50	9·66	58	3	48	11·44	88	5	46	13·21				
29	1	54	5·72	59	3	52	7·49	89	5	50	9·27				
30	1	58	1·78	60	3	56	3·55	90	5	54	5·33				

TABLE XCIV-D.

Time-equivalents,

Decimals of nakshatra-index units.

First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	First 2 decimals.	M.	S.
·01	0	2·36	·34	1	20·26	·67	2	38·16
·02	0	4·72	·35	1	22·62	·68	2	40·52
·03	0	7·08	·36	1	24·98	·69	2	42·88
·04	0	9·44	·37	1	27·34	·70	2	45·24
·05	0	11·80	·38	1	29·70	·71	2	47·60
·06	0	14·16	·39	1	32·06	·72	2	49·96
07	0	16·52	·40	1	34·42	·73	2	52·32
·08	0	18·88	·41	1	36·78	·74	2	54·68
·09	0	21·25	·42	1	39·14	·75	2	57·04
·10	0	23·61	·43	1	41·51	·76	2	59·40
·11	0	25·97	·44	1	43·87	·77	3	1·77
·12	0	28·33	·45	1	46·23	·78	3	4·13
·13	0	30·69	·46	1	48·59	·79	3	6·49
·14	0	33·05	·47	1	50·95	·80	3	8·85
·15	0	35·41	·48	1	53·31	·81	3	11·21
·16	0	37·77	·49	1	55·67	·82	3	13·57
·17	0	40·13	·50	1	58·03	·83	3	15·93
·18	0	42·49	·51	2	0·39	·84	3	18·29
·19	0	44·85	·52	2	2·75	·85	3	20·65
·20	0	47·21	·53	2	5·11	·86	3	23·01
·21	0	49·57	·54	2	7·47	·87	3	25·37
·22	0	51·93	·55	2	9·83	·88	3	27·73
·23	0	54·29	·56	2	12·19	·89	3	30·09
·24	0	56·65	·57	2	14·55	·90	3	32·45
·25	0	59·01	·58	2	16·91	·91	3	34·81
·26	1	1·38	·59	2	19·28	·92	3	37·17
·27	1	3·74	·60	2	21·64	·93	3	39·54
·28	1	6·10	·61	2	24·00	·94	3	41·90
·29	1	8·46	·62	2	26·36	·95	3	44·26
·30	1	10·82	·63	2	28·72	·96	3	46·62
·31	1	13·18	·64	2	31·08	·97	3	48·98
·32	1	15·54	·65	2	33·44	·98	3	51·34
·33	1	17·90	·66	2	35·80	99	3	53 70

3rd and 4th decimals.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.
·0001	0·02	·0034	0·80	·0067	1·58
·0002	0·05	·0035	0·83	·0068	1·61
·0003	0·07	·0036	0·85	·0069	1·63
·0004	0·09	·0037	0·87	·0070	1·65
·0005	0·12	·0038	0·90	·0071	1·68
·0006	0·14	·0039	0·92	·0072	1·70
·0007	0·17	·0040	0·94	·0073	1·72
·0008	0·19	·0041	0·97	·0074	1 75
·0009	0·21	·0042	0·99	·0075	1·77
·0010	0·24	·0043	1·02	·0076	1·79
·0011	0·26	·0044	1·04	·0077	1·82
·0012	0·28	·0045	1·06	·0078	1·84
·0013	0·31	·0046	1·09	·0079	1·86
·0014	0·33	·0047	1·11	·0080	1·89
·0015	0·35	·0048	1·13	·0081	1·91
·0016	0·38	·0049	1·16	·0082	1·94
·0017	0·40	·0050	1·18	·0083	1·96
·0018	0·42	·0051	1·20	·0084	1·98
·0019	0·45	·0052	1·23	·0085	2·01
·0020	0·47	·0053	1·25	·0086	2·03
·0021	0·50	·0054	1·27	·0087	2·05
·0022	0·52	·0055	1·30	0088	2·08
·0023	0·54	·0056	1·32	·0089	2·10
·0024	0·57	·0057	1·35	·0090	2·12
·0025	0·59	·0058	1·37	·0091	2·15
·0026	0·61	·0059	1·39	·0092	2·17
·0027	0·64	·0060	1·42	·0093	2·20
·0028	0·66	·0061	1·44	·0094	2·22
·0029	0·68	·0062	1·46	·0095	2·24
·0030	0·71	·0063	1·49	·0096	2·27
·0031	0·73	·0064	1·51	·0097	2·29
·0032	0·76	·0065	1·53	·0098	2·31
·0033	0·78	·0066	1·56	·0099	2·34

TABLE XCIV-E.

TIME-EQUIVALENTS.

YOGA-INDLX UNITS.

Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.
1	0	3	39·63	31	1	53	28·55	61	3	43	17·47	91	5	33	6·39
2	0	7	19·26	32	1	57	8·18	62	3	46	57·10	92	5	36	46·02
3	0	10	58·89	33	2	0	47·81	63	3	50	36·73	93	5	40	25·65
4	0	14	38·52	34	2	4	27·44	64	3	54	16·36	94	5	44	5·29
5	0	18	18·15	35	2	8	7·07	65	3	57	56·00	95	5	47	44·92
6	0	21	57·78	36	2	11	46·71	66	4	1	35·63	96	5	51	24·55
7	0	25	37·41	37	2	15	26·34	67	4	5	15·26	97	5	55	4·18
8	0	29	17·05	38	2	19	5·97	68	4	8	54·89	98	5	58	43·81
9	0	32	56·68	39	2	22	45·60	69	4	12	34·52	99	6	2	23·44
10	0	36	36·31	40	2	26	25·23	70	4	16	14·15	100	6	6	3·07
11	0	40	15·94	41	2	30	4·86	71	4	19	53·78	200	12	12	6·14
12	0	43	55·57	42	2	33	44·49	72	4	23	33·41	300	18	18	9·21
13	0	47	35·20	43	2	37	24·12	73	4	27	13·04				
14	0	51	14·83	44	2	41	3·75	74	4	30	52·67				
15	0	54	54·46	45	2	44	43·38	75	4	34	32·30				
16	0	58	34·09	46	2	48	23·01	76	4	38	11·93				
17	1	2	13·72	47	2	52	2·64	77	4	41	51·56				
18	1	5	53·35	48	2	55	42·27	78	4	45	31·19				
19	1	9	32·98	49	2	59	21·90	79	4	49	10·83				
20	1	13	12·61	50	3	3	1·53	80	4	52	50·46				
21	1	16	52·24	51	3	6	41·17	81	4	56	30·09				
22	1	20	31·88	52	3	10	20·80	82	5	0	9·72				
23	1	24	11·51	53	3	14	0·43	83	5	3	49·35				
24	1	27	51·14	54	3	17	40·06	84	5	7	28·98				
25	1	31	30·77	55	3	21	19·69	85	5	11	8·61				
26	1	35	10·40	56	3	24	59·32	86	5	14	48·24				
27	1	38	50·03	57	3	28	38·95	87	5	18	27·87				
28	1	42	29·66	58	3	32	18·58	88	5	22	7·50				
29	1	46	9·29	59	3	35	58·21	89	5	25	47·13				
30	1	49	48·92	60	3	39	37·84	90	5	29	26·76				

TABLE XCIV-F.

TIME-EQUIVALENTS.

DECIMALS OF YOGA-INDEX UNITS.

First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	First 2 decimals.	M.	S.
·01	0	2·20	·34	1	14·67	·67	2	27·15
·02	0	4·39	·35	1	16·87	·68	2	29·35
·03	0	6·59	·36	1	19·07	·69	2	31·55
·04	0	8·79	·37	1	21·26	·70	2	33·74
·05	0	10·98	·38	1	23·46	·71	2	35·94
·06	0	13·18	·39	1	25·66	·72	2	38·13
·07	0	15·37	·40	1	27·85	·73	2	40·33
·08	0	17·57	41	1	30·05	·74	2	42·53
·09	0	19·77	·42	1	32·24	·75	2	44·72
·10	0	21·96	·43	1	34·44	·76	2	46·92
·11	0	24·16	·44	1	36·64	·77	2	49·12
·12	0	26·36	·45	1	38·83	·78	2	51·31
·13	0	28·55	·46	1	41·03	·79	2	53·51
·14	0	30·75	·47	1	43·23	·80	2	55·70
·15	0	32·94	·48	1	45·42	·81	2	57·90
·16	0	35·14	·49	1	47·62	·82	3	0·10
·17	0	37·34	·50	1	49·82	·83	3	2·29
·18	0	39·53	·51	1	52·01	·84	3	4·49
·19	0	41·73	·52	1	54·21	·85	3	6·69
·20	0	43·93	·53	1	56·40	·86	3	8·88
·21	0	46 12	·54	1	58·60	·87	3	11·08
·22	0	48·32	·55	2	0·80	·88	3	13·28
·23	0	50·52	·56	2	2·99	·89	3	15·47
·24	0	52·71	·57	2	5·19	·90	3	17·67
·25	0	54·91	·58	2	7·39	·91	3	19·86
·26	0	57·10	·59	2	9·58	·92	3	22·06
·27	0	59·30	·60	2	11·78	·93	3	24·26
·28	1	1·50	·61	2	13·97	·94	3	26·45
·29	1	3·69	·62	2	16·17	·95	3	28·65
·30	1	5·89	·63	2	18·37	·96	3	30·85
·31	1	8·09	·64	2	20·56	·97	3	33·04
·32	1	10·28	·65	2	22·76	·98	3	35·24
·33	1	12·48	·66	2	24·96	·99	3	37·43

3rd and 4th decimals.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.
·0001	0·02	·0034	0·75	·0067	1·47
·0002	0·04	·0035	0·77	·0068	1·49
·0003	0·07	·0036	0·79	·0069	1·52
·0004	0·09	·0037	0·81	·0070	1·54
·0005	0·11	·0038	0·83	·0071	1·56
·0006	0·13	·0039	0·86	·0072	1·58
·0007	0·15	·0040	0·88	·0073	1·60
·0008	0·18	·0041	0·90	·0074	1·63
·0009	0·20	·0042	0·92	·0075	1·65
·0010	0·22	·0043	0·94	·0076	1·67
·0011	0·24	·0044	0·97	·0077	1·69
·0012	0·26	·0045	0·99	·0078	1·71
·0013	0·29	·0046	1·01	·0079	1·74
·0014	0·31	·0047	1·03	·0080	1·76
·0015	0·33	·0048	1·05	·0081	1·78
·0016	0·35	·0049	1·08	·0082	1·80
·0017	0·37	·0050	1·10	·0083	1·82
·0018	0·40	·0051	1·12	·0084	1·84
·0019	0·42	·0052	1·14	·0085	1·87
·0020	0·44	·0053	1·16	·0086	1·89
·0021	0·46	·0054	1·19	·0087	1·91
·0022	0·48	·0055	1·21	·0088	1·93
·0023	0·51	·0056	1·23	·0089	1·95
·0024	0·53	·0057	1·25	·0090	1·98
·0025	0·55	·0058	1·27	·0091	2·00
·0026	0·57	·0059	1·30	·0092	2·02
·0027	0·59	·0060	1·32	·0093	2 04
·0028	0·61	·0061	1·34	·0094	2·06
·0029	0·64	·0062	1·36	·0095	2·09
·0030	0·66	·0063	1·38	·0096	2·11
·0031	0·68	·0064	1·41	·0097	2·13
·0032	0·70	·0065	1·43	·0098	2·15
·0033	0·72	·0066	1·45	·0099	2·17